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ABSTRACT

Offered as a tribute to the growing and fruitful spirit of regional cooperation in education in Asia and the Pacific, this volume provides a retrospective and prospective view of cooperative efforts and conditions in the 28 countries of the region. Part One outlines landmark efforts accomplished through a series of UNESCO regional conferences beginning in 1962. For example, from 1978-1985, the Asia and the Pacific Programme of Educational Innovation for Development supported almost 600 activities at inter-country and national levels, directly involving 11,500 educators in 24 countries. Activities encompassed universalization of primary education; the struggle against illiteracy; development of science and technology education; promotion of technical and vocational education; development of environmental, population, and higher education; training educational personnel; and educational planning and administration, facilities development, and research. Part Two provides statistical data to document the situation of education in the region, including population, income, poverty, life expectancy, educational attainment, enrollment, dropout percentages, teaching staff, pupil-teacher ratios, expenditures, and illiteracy rates. Part Three details the goals, priorities, and recommendations of the Fifth Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia and the Pacific which met in Bangkok in 1985. Part Four describes recommended actions for regional education development in the areas of educational planning and management, personnel preparation/training, research, experimentation and innovation, and international cooperation. (NEC)

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CONTENTS

Introduction 1

Part One -- **Asia and the Pacific: evolving regional co-operation**

Chapter One : Images of diversities and unities . . . 3

Chapter Two : Regional co-operation in education: the landmarks 7

Part Two – **Situation of education in Asia and the Pacific**

Chapter Three : Numbers count: the demographic context . 39

Chapter Four : How many, how far: the expanding education . 46

Chapter Five : An agenda of problems 96

Part Three -- **Signposts towards the future**

Chapter Six : The MINEDAP V (Bangkok 1985) Declaration . . 109

Chapter Seven : Renewing education for development . . . 115

Chapter Eight : Towards the year 2000 – education for all . . 122

Chapter Nine : Science education – towards science for all . 137

Chapter Ten : Education and the world of work 143

Chapter Eleven : Higher education and national development . 152

CONTENTS (cont'd)

Part Four – Action for educational development: ways and means

Chapter Twelve : Educational planning and management . . . 161

Chapter Thirteen : Preparation and training of educational personnel: new roles, new needs . 166

Chapter Fourteen : Research, experimentation, innovation . . . 171

Chapter Fifteen : International co-operation – a new dimension of educational development . 178

Bibliography . . . . . I - VII

List of statistical tables

Table 1	Total population: estimates and projections for the world and Asia and the Pacific (1970-2000)	39
Table 2	Average annual rate of growth of total population (1970-2000)	40
Table 3	Population aged 6-11 years in developing countries of Asia and the Pacific: decennial increases and average annual growth rates (1970-2000)	41
Table 4	Population: for primary education age-group (6-11) average annual rates of growth in selected countries (1970-2000)	42
Table 5	Population profile: income, poverty, life-expectancy, educational attainment (selected countries)	45
Table 6	Enrolment by level of education in Asia and the Pacific (1970-1982)	48
Table 7	Gross enrolment ratios by level of education (according to national structures) (1970-1985 est.)	50
Table 7.1	Average annual growth in enrolment (1970-1982)	54
Table 8	Gross enrolment ratios for girls in primary and secondary education (23 countries) (1970 and 1982)	56
Table 9	Selected indicators of the expansion of primary education in Asia and the Pacific (29 countries) (1970-1982)	59
Table 10	Survival and dropping out in primary education (14 countries)	61
Table 11	Repetition rates by grade in primary education (both sexes, 11 countries)	62
Table 12	Selected indicators of the expansion of secondary education in Asia and the Pacific (28 countries) (1970-1982)	63
Table 13	Enrolment at the second level of education: percentage distribution by type (27 countries) (1970 and latest available data)	65
Table 13.1	Technical/vocational education: distributition of enrolment by field of study (23 countries) (latest year available)	67

List of statistical tables (cont'd)

Table	14	Higher education: total enrolment, percentage female and average annual growth rates (25 countries) (1970 to latest year available)	70
Table	14.1	Higher education: number of students per 100,000 inhabitants (28 countries) (1970, 1975 and latest year available)	72
Table	15	Higher education: percentage distribution of students by field of study (28 countries) (1970 and latest year available)	74
Table	16	Teaching staff by level of education: Asia and the Pacific region (1970-1982)	77
Table	17	Pupil-teacher ratios in primary and secondary education (27 countries) (1970, 1975 and 1980)	78
Table	18	Annual average economic growth rates: selected countries of Asia and the Pacific	81
Table	19	Total public expenditure on education as a percentage of the Gross National Product (GNP) (24 countries)	82
Table	20	Total public expenditure on education as a percentage of total government expenditure (21 countries)	83
Table	21	Percentage distribution of current public expenditure by level of education (23 countries) (latest year available)	85
Table	22	Out-of-school children and youth in the developing countries of Asia and the Pacific (1960-1982)	88
Table	23	Number of illiterates and literacy rates in the world and the developing regions for the population aged 15 years and over (1970 and 1985)	89
Table	24	Illiteracy in the countries of Asia and the Pacific (21 countries) (latest census or survey data available since 1970)	90
Table	25	Illiteracy in urban and rural areas (14 countries) (latest census or survey data available since 1970)	92

List of statistical tables (cont'd)

Table	26	Gross enrolment ratios for girls in primary and secondary education (23 countries) (1970 and 1982)	93
Table	27	Female enrolment as per cent of total enrolment at each level of education and by sub-regions (1960-1982)	94
Table	28	Rates of unemployment (selected countries) (1979-1983)	106

Note: Unless otherwise indicated, the sources for data in the above tables are:

- ***Development of education in Asia and the Pacific,*** prepared by UNESCO, code ED-85/MINEDAP/3; and
- ***Development of education in Asia and the Pacific: a statistical review,*** prepared by the Office of Statistics of UNESCO, code ED-85/MINEDAP/REF. 2

INTRODUCTION

The purpose of the Unesco Regional Office for Education in Asia and the Pacific, Bangkok, in publishing this book is to present the main developments in education in the region in conspectus. This is done from the vantage point of the Fifth Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia and the Pacific which met at Bangkok in 1985.

The Conferences of Ministers of Education convened by Unesco have been meeting regularly since 1962. They have reviewed the situation of education in the region and identified the priorities for future development as well as for inter-country co-operation in association with international bodies such as Unesco. As the author of this book points out, it is these conferences which have established the framework within which regional co-operation in education has grown and has been contributing to international co-operation.

The first Regional Conference which met at Tokyo in 1962 was attended by Ministers of Education; all subsequent Regional Conferences (Bangkok, 1965; Singapore 1972; Colombo 1978; Bangkok 1985) were attended both by Ministers of Education and Those Responsible for Economic Planning in the countries and were convened by Unesco with the co-operation of the United Nations Economic and Social Commission for Asia and the Pacific. The composition of the Conferences comprising both education and economic policy-makers has served to broaden the perspectives in which the developments in education were viewed. As the author points out, each of these regional conferences broke new ground or gave renewed impetus to a line of development both at the national and regional levels. Many of Unesco's regional programmes in education had their beginning in the deliberations and recommendations of the Regional Conferences.

The latest conference in the series, the Fifth Regional Conference, commonly referred to as MINEDAP V, met at Bangkok in 1985

at the invitation of Unesco and with the co-operation of United Nations Economic and Social Commission for Asia and the Pacific. The official report of the deliberations of MINEDAP V has been published and distributed. But the ideas and the recommendations of the Conference call for wider dissemination which, it is hoped, will be served by this book. The author of this book, Raja Roy Singh, formerly a staff member, was associated as secretary-general of all the regional conferences since 1965 and principally responsible for preparing the documents for MINEDAP V. In the preparation of this book, he has drawn on the deliberations of MINEDAP V, the national reports presented to the Conference and, most importantly, the working documents of the Conference including the statistical presentation.

The development of education in the region has encountered many problems; it has also achieved important results. The spirit of inter-country and regional co-operation in education which has developed so strongly through the years is surely one of these important achievements. The book is offered as a tribute to this growing and fruitful spirit of regional co-operation in education in Asia and the Pacific.

Part One

ASIA AND THE PACIFIC: EVOLVING REGIONAL CO-OPERATION

Chapter One

IMAGES OF DIVERSITIES AND UNITIES

The region* of Asia and the Pacific presents in greater measure than any other region in the world a vast spectrum of diversities encompassing almost all aspects of life. Geographically, the regional area extends literally from pole to pole, from the arctic through the equatorial; there are countries of vast land masses and also island countries covering ocean areas as extensive as the land masses. Countries with the largest populations are to be found in the region and also countries with the smallest populations. There is no geographical or environmental variant which is not found in the region.

The levels of economic development vary almost as widely, from societies at quite early stages of development to others which are amongst the most technologically advanced in the world. The paths of development taken by the countries as well as their political systems differ as much as the stages of their development. Taken in a total view at any moment, it would appear as if several stages of history are coalesced in the same space and time.

Images of diversities also light up the cultural field, reflected most sharply in the variety of national languages. It is said that linguistically Asia changes every 100 miles! However, in many ways, the evolution of the various great languages of Asian countries holds a mirror to the multiple processes by which the diversities as well as the unities of this vast region have been fashioned over the centuries.

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* The region as defined by the General Conferences of UNESCO now (1986) covers the following countries: Democratic Republic of Afghanistan, Australia, Bangladesh, Bhutan, Burma, China, Democratic Kampuchea, Democratic People's Republic of Korea, Fiji, India, Indonesia, Islamic Republic of Iran, Japan, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Samoa, Socialist Republic of Viet Nam, Sri Lanka, Thailand, Tonga, Turkey, Union of Soviet Socialist Republics.

Diversities surely stand out, but they are no more than a part of the picture. Running through them are strands of unities – not any one 'unity' homogeneous or seamless, but more like weft in a fabric. They are commonalities among groups of countries, with their roots at times in historical factors and influences and at times in the aspirations that they share.

The shared aspirations of many countries in the region have had their origin in the emergence of nationalism. This has been in modern times by far the most powerful formative influence in the countries in all aspects of life, political, economic, social and cultural. It formed a watershed, giving to the current decades their unique characteristics in the centuries old histories. For very many countries, nationalism was bound up with the struggle to achieve political independence from colonial domination and this created a sense of solidarity among the struggling countries despite the barriers to inter-country intercourse created by the colonial dominant structures. The creative aspect of nationalism was manifested strikingly in the cultural Renaissances which came to flower in many countries. In some countries the birth of the national languages may be traced to the cultural Renaissance; in all countries it meant a powerful renewal of the national languages as an expression of the national identities. These cultural Renaissances occurred in different countries in different times and were specific to the national contexts; in many countries, the cultural Renaissances and the national freedom movements were interlinked as cause and effect. However they were also part of a larger community of expression which transcended the national boundaries and constituted a complex of interacting influences comparable to the cultural exchanges of earlier times. Significantly the cultural Renaissances in all cases created a hightened awareness of and demand for the development of education in tune with the emerging national context.

The 1940s and 1950s witnessed the achievement of political independence by all countries which were in colonial thraldom till then. The process of this historical change was in many areas full of agonizing divisions and disruptions. The map of the region, as one finds it today, was drawn largely by the events of the 1940s and 1950s. Then followed the period of national reconstruction in which the key strategy concept was 'development'. The goal of national development has become a shared aspiration of the developing countries of the region, with 'planning' as the tool for such development. The paths to national development are taken differently by different

countries; the techniques of planning are also different; the overall goal of development, however, arises from the aspirations which they hold in common, despite the differences in the political systems and ideologies. The progress toward achieving national development on a self-sustaining basis has been uneven and in consequence the differences, even among the developing countries of the region, have not narrowed. However, the gathering momentum of development and the pace of industrialization and modernization in many countries are creating new economic structures, encompassing groups of countries for the purpose of technical and economic co-operation and joint action.

The impact of Western science and technology, the national freedom movements, the cultural Renaissances, the rising aspirations of national development -- they belong to the current times; the images of unities form and reform. The region has other unities which go back from recent times to the early centuries, and they have inspired the cultural expressions and outlook profoundly.

The picture of Asia as a 'hermit continent', plunged in thought while the legions thundered past, is totally unrelated to reality. The region of Asia and the Pacific has, since the sixth century BC to the modern times, a continuous history of extensive cultural interactions on a scale that no other part of the world has experienced. These interactions cannot be neatly labelled and classified as so much cultural, so much moral, so much religious, so much political and so on. Their power lay precisely in the fact that they covered all aspects and levels of life and gave life meaning and significance transcending geographical origins or boundaries. Thus each encounter was a transformation and not merely a transfusion, and became a new beginning in the ascent of man. The great religious and moral systems of thought and sensibility which were cradled in Asia, were borne to different parts of the continent by a dynamics that seemed to inhere in their messages. Thus the first great turning point was surely the era around the sixth and fifth centuries BC – the springtime of Asian thought – when Buddhism, Confucianism, Lao Tzu and Brahminism arose and emerged in the international commerce of thought. The following 1,500 years witnessed the most creative interactive processes at work which brought about profound transformations in all spheres of life in almost all the areas which now comprise the different national boundaries. The next great turning point was the advent of Islam on the Asian continent and the oceanic and coastal regions, transforming extensive areas and many peoples

and providing another focal point of unity and brotherhood. These influences released by the new visions of man and the universe, created in the region, through many centuries, communities of thought and cultural expression which were uniquely specific to different situations and at the same time linked to wider entities.

All the great systems of thought and conduct included also views of education and associated with them were quite distinguishable forms and structures of education. Thus arose the traditions of education rooted in Buddhism, Confucianism, Hinduism and Islam. An integral part of these educational traditions was the movement and exchange of scholars between countries and the institutions of higher learning. These traditions held through the countries till they were either uprooted or weakened and supplanted in the nineteenth century as the tide of western technical prowess reached the ancient continent. And this in turn released new forces, marking changes in the movement of history never known before. New patterns of civilization and thought dominated by science and technology and new modes of industrial and economic organization took their place in the multi-strands of the region. Associated with these new patterns of civilization were new practices of education based on mass base education. The impact of these educational ideas was deeper than that of any other single factor. Many of the ancient traditions in education gradually merged into the new practices or were completely supplanted by the latter. Also, the new modes of education as they began to find their roots were influenced in many ways by the ancient traditions.

The diversities and unities have been the warp and weft of the region's ways of life, cultures, historical memories and aspirations. The following pages set out these diversities and commonalities in one segment – education.

Chapter Two

REGIONAL CO-OPERATION IN EDUCATION: THE LANDMARKS

Ministers' policy conferences

The period 1960-1962 was the first landmark in the evolution of regional co-operation in education and also significant in UNESCO's programme and action. It saw the beginning of a wide-ranging series of activities which brought together in co-operation the countries of the region and international organizations, with the aim of providing support and assistance for national policies and initiatives for educational development.

Responding to the member countries' wishes to consult each other and pool ideas and experiences, UNESCO, in the late 1950s and early 1960s, convened in all regions the first round of regional conferences of Ministers of Education. The first of these conferences was for Latin America and the Caribbean, held in Lima in 1956.

Karachi Plan and the Tokyo Meeting of Ministers of Education (MINEDAS I – 1962)

In Asia*, the first activity was a meeting of the representatives of the governments, which met in Karachi and drew up a regional plan for the provision of compulsory primary education in the region. This was the first attempt at drawing up a region-wide plan for education. It was published by UNESCO under the title ***The needs of Asia in primary education*** (1961, UNESCO) and is known as the ***Karachi Plan.*** This was followed by the convening of the first meeting of Ministers of Education of Asian Member States participating in the Karachi Plan (Tokyo, 1962). The ministerial meeting (it was

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* Till 1974, the region comprised Member States of Asia. Since then the region also includes the Member States in the Pacific.

the first in a series of ministerial conferences and is referred to as MINEDAS I) considered and adopted the Karachi Plan, and thus focused collective attention in Asia on the central problem of millions of children without access to educational opportunities. The problem is still with us, though on a smaller scale, nearly 25 years after attention was first drawn to it.

The **Karachi Plan** recommended that 'every country of this region should provide a system of universal, compulsory and free primary education of seven years or more within a period of not more than 20 years (1960–1980)'. It stressed that to achieve this goal, the rate of expansion reached in the previous decade of the 1950s should be doubled. It envisaged that by 1980 investment in education would rise to 4–5 per cent of GNP.

The first ministerial meeting (MINEDAS I) endorsing the Karachi Plan proposed that it be extended to cover all levels of education – primary, secondary, higher and adult – in each of the countries and for the region in the form of an 'Asian Model'.

The Karachi Plan and MINEDAS I set in train many activities. On UNESCO's side, they led to the establishment of UNESCO's regional structure comprising a regional office for education at Bangkok and three regional centres, one for the training of educational planners (New Delhi), one for the training of teacher educators (Manila), and one for school buildings and facilities (initially in Bandung, later in Colombo). Teams of educational planning experts were provided to the countries to help them develop the national projections of educational development, as recommended by MINEDAS I.

The fact that the quantitative target of the Karachi Plan so dramatically expressed was not reached by 1980 should not be allowed to obscure the deep and abiding impact that the Plan and MINEDAS I had, notably in three areas.

First, the Karachi Plan and MINEDAS I set the frame for regional co-operation in education which the following years have made stronger and abiding. Without doubt, regional co-operation in Asia and the Pacific is now a factor of profound significance; it is a form of collective action and mutual help by the countries.

Second, the Karachi Plan put primary education and the problem of educational deprivation squarely in the middle of the stage for the planners and others responsible for the distribution and allocation of resources in the countries.

Third, the Karachi Plan and MINEDAS I made a significant contribution towards strengthening national capacities in educational planning within the framework of overall development planning. The first educational plans in most countries in Asia were developed around the early 1960s and bore the imprint of the contribution of the Karachi Plan.

The Bangkok Regional Conference (MINEDAS II – 1965)

The regional conference held in Bangkok in 1965 was the first conference in the region to which both the Ministers of Education and the Ministers of Economic Planning were invited. This is now the established pattern. (The full title of the Bangkok Conference was, 'Conference of Ministers of Education and Ministers Responsible for Economic Planning of Member States in Asia' (MINEDAS II).

The major theme of the conference was consideration of 'The Asian Model of Educational Development: perspective for 1965–1980', which was developed following the recommendation of MINEDAS I at Tokyo.

The purpose of the ***Asian Model*** was threefold: first, it was an attempt to visualize in quantitative terms the prospectives of educational development in Asia until 1980. Secondly, it was designed to illustrate the interrelationship of some of the main factors involved in educational development and to show how they may be viewed in different combinations. Thirdly, it sought to draw attention to some of the important implications for educational development that become evident when specific data are examined systematically and quantitatively as was done in the Model. The use of modern computers gave great flexibility by allowing quantification of policy alternatives for different levels and types of education and for countries in the region classified into groups by their present level of development.

MINEDAS II gave renewed impetus to the efforts in the countries to plan the development of education in an integrated manner, not only quantitatively but also qualitatively. The qualitative parameters were, to the maximum extent possible, built into the growth patterns.

In primary education, MINEDAS II retained the Karachi Plan target of full enrolment by 1980, subject to the recognition that some countries would achieve the target well before 1980 and some

would go beyond 1980. The emphasis was put on the reduction of drop-outs in reaching the target and increased attention to the training of teachers including in-service training.

At the secondary level, MINEDAS II recommended a fundamental structural change with the main emphasis on technical/technical-based studies which, it was proposed, should be able to take 30 per cent of the second-level enrolment. Teacher training conducted at the second level would be upgraded to the third level.

At the third level, emphasis was on the diversification of the institutional structures with priority being given to non-university types of institutions. The other fundamental change was envisaged in the composition of the enrolment, namely 55 per cent of the third-level enrolment which was recommended to be in science, science-based and technological studies. MINEDAS II further strengthened the trend in regional co-operation which was started by the Tokyo Meeting (1962).

Looking back on the contributions of MINEDAS II which has had a continuing impact over the past 20 years, the following call for special mention.

Firstly, the ***Asian Model*** and its methodology, and the formulation of national projections that preceded it, made an important contribution to the preparation of educational development plans which were in process in many countries. The concept of educational planning as a tool of educational development in the framework of overall development was now becoming an accepted wisdom. MINEDAS II was an important stage in this process.

Secondly, MINEDAS II gave a powerful impulse to the reorganization and development of science education, notably at the school level. MINEDAS II's recommendation on science education set in train a growing number of programme activities in the region for renovating and modernizing science curricula, preparing new textbooks and teaching materials, and improving the training of science teachers; science education centres (for curriculum development, etc.) began to be established, a number of which were directly assisted by UNESCO.

Thirdly, MINEDAS II was the first ministerial-level conference which drew attention to the inequalities in educational opportunities, specially in the education of girls and women.

Fourthly, educational research which was in an incipient stage in the developing region was highlighted by MINEDAS II, which led

to a regional programme in educational research centered on the National Institute of Educational Research of Japan, with the support of UNESCO.

The Singapore Conference (MINEDAS III – 1971)

MINEDAS III was, according to the newly established pattern, a regional conference of ministers of education and those responsible for economic planning in Asia. It carried out a wide-ranging review of the trends and directions of educational development in the region, wider in scope than was undertaken by any of the earlier conferences. It drew attention to a slowing down in the pace of educational expansion generally, and to quite marked shortfalls in the targets foreshadowed in the ***Asian Model***, particularly those relating to technical and vocational education at the secondary level, and science and science-based studies at the higher level.

The resolutions and recommendations of MINEDAS III also covered much wider and more varied ground: educational policy, educational planning and management, structures and content of education, teacher education, adult education and literacy, new methods and techniques, educational research, science education, technical education and training, rural development, international and regional co-operation. Indeed, MINEDAS III can be said to have identified the leading sectors of educational development which have provided, and continue to provide, the framework for action for the following decades. Some of its recommendations broke new ground; for example, its recommendation for the promotion of population education. It was also the first MINED conference in Asia which addressed the problem of higher education.

The most notable contribution of MINEDAS III was in proposing new forms of regional and international co-operation. Indeed regional co-operation, its objectives and modalities emerged as the pervasive theme of the conference, and its recommendations have had a determining effect on the evolution of UNESCO's regional programmes and the regional structures.

The basic approach of MINEDAS III to regional co-operation lay in the recognition that the relationship of co-operation is not one of a 'donor' on the one hand, and a receiving 'beneficiary' on the other. Each participating country has something to give and something to receive; these capacities of ideas, skills and experience have evolved in all the countries and their mobilization for common sharing should be the substance of inter-country and regional co-operation.

Inter-country, and indeed any international assistance, cannot be productive if it seeks to impose on a country an externally conceived 'model' of educational action. Such action has to arise from the perceptions and acceptances of the national milieu.

MINEDAS III broke new ground in another area by emphasizing the critical importance of educational innovations which are indispensable, in the context of financial and other constraints, for educational development in the region. It recommended educational innovations as a priority area in inter-country and regional co-operation.

These recommendations of MINEDAS III led UNESCO to promote inter-country networking of national centres and programmes as the principal medium of regional co-operation in sharing of experiences and expertise. The approach was adopted in different regional programmes with which UNESCO was associated, and has continued to be the single most important modality of co-operative action in education. A new programme was initiated by UNESCO based on the principles of co-operation discussed by MINEDAS III, namely, the Asian Programme of Educational Innovation for Development (APEID).* The General Conference of UNESCO, at its seventeenth session in 1972, approved the establishment of a centre to provide co-ordinating services to APEID – the Asian Centre of Educational Innovation for Development (ACEID).

Asia and the Pacific Programme of Educational Innovation for Development (APEID). APEID is a co-operative endeavour of Member States sharing a commonality of outlook towards education linked to development. It is designed as technical co-operation among developing countries in partnership with the developed countries of the region and international bodies having similar objectives. It is based on the participating Member States' national goals and their commitment to the development of education related to these goals, in the context of their particular political, social and economic systems.

APEID was designed and developed jointly by the Member States, and its activities are implemented and supervised through institutions associated with it. The relationship between the participating Member States is based on reciprocity, mutual learning and self-reliance.

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* The name was later changed to Asia and the Pacific Programme of Educational Innovation for Development, with the same acronym, APEID.

The main objectives of APEID are: to promote awareness of the need for innovation and of possibilities for change; to promote understanding of the processes and practices of innovation and to identify and stimulate innovative activities and co-operative action among the Member States; to assist the Member States in strengthening ongoing national programmes which are developing innovations dealing with one or more aspects of development-oriented education; and to promote the inter-country transfer of experiences and technical co-operation, particularly through exchange activities, advisory services and information.

Following MINEDAS III, and soon after the seventeenth session of the General Conference of UNESCO, all UNESCO's Member States in the region were invited to participate in APEID. Sixteen Member States responded to the invitation of the Director-General and attended the first Programme Development Meeting. The participation of Member States has steadily increased, and at present the following 24 Member States are participating in the programme: Afghanistan, Australia, Bangladesh, China, Fiji, India, Indonesia, Iran, Japan, Lao People's Democratic Republic, Malaysia, Maldives, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Socialist Republic of Viet Nam, Sri Lanka, Thailand, Tonga, Turkey, and Western Samoa.

APEID is not an institution or an organization; it is a mode of inter-country co-operation for mutual help in educational endeavour. It is regional and sub-regional and at the same time national in nature and scope, as it addresses itself to the problems identified jointly by and in association with the participating Member States. It is therefore referred to as a Programme. Its institutional framework consists of: Associated Centres of APEID, National Development Groups, Regional Consultation Process; and the Asian Centre of Educational Innovation for Development.

Associated Centres are institutions of a Member State or an intergovernmental body of Member States which are associated with APEID at the instance of the concerned governments. They are mostly individual institutions which have gained a measure of competence in innovation and produced a body of shareable experiences, and have joined the Programme to contribute to and benefit from the exchanges of insights, skills and expertise promoted under the Programme.

The Programme has encouraged extensive and continuous contacts with innovative centres, including several outside the education

field such as agriculture, health and nutrition, social welfare, mass media, industrial and manpower planning, science and technology, urban planning and information services.

The number of Associated Centres has grown rapidly over the years. To start with, there were 12 in 1973–1974; by early 1986 the number had grown to 164, out of which three are regional centres and the rest national institutions and organizations. The activities under the Programme are mostly carried out by these centres.

National Development Groups have been established by all the participating Member States to identify and stimulate, at the national level, educational innovation, the facilitation of a better flow of information and experiences, and the monitoring and evaluation of educational activities. National Development Groups also assist the Associated Centres in their work. At the regional level, they serve to liaise with the participating Member States and ACEID. They play a crucial role in selecting appropriate inputs and participants to APEID activities.

The regional consultation process is embodied mainly in the regional consultation meetings which are held periodically for the review of the Programme and for developing new activities. Since the inception of the Programme, nine regional consultation meetings have been organized and have served as an essential means for the renewal and refinement of the Programme and in keeping its priorities in tune with the educational concerns of the Member States.

The Asian Centre of Educational Innovation for Development (ACEID) which is an integral part of the UNESCO Regional Office for Education in Asia and the Pacific, functions as a facilitator of the Programme especially by promoting inter-country co-operative action, serving as a catalytic agent for stimulating innovations in the countries, identifying gaps and growth points in national efforts, and developing information materials and promoting the exchange of educational media resources. ACEID provides or organizes technical support to the Associated Centres whenever needed, serving in this regard as a resource base. One of its notable activities is the development and dissemination of information and materials on educational development and innovations.

APEID is an open-ended programme which is designed to adapt and respond, on a continuing basis, to the emerging problems and concerns in educational development which, in the perception of the participating Member States, are amenable to collective and

co-operative action. These problems and concerns are approached selectively in the context of national development goals set by each Member State and those identified by the Regional Ministerial Conferences. The programme areas so selected as priorities become the focal points for concentrated action both at inter-country and country levels. As the outcomes of programme activities merge into the main stream of action in the Member States, these programme areas give way to other priority problems and concerns. The regional consultation process is the key mechanism by which the dynamics of programme renewal is generated and maintained.

The plans of action of APEID are developed for a five-year programming cycle and centre on the selected priority programme areas. There is, however, also a built-in mechanism of annual review and periodic evaluation for adjustment and modification of work plans in order to keep them in tune with the national priorities for regional co-operation in education. APEID, thus, evolves on a 'rolling plan' basis, annually and by programming cycle.

First programming cycle (1974-1977). In the light of MINEDAS III deliberations and the work of the regional consultation process, six programme areas were identified for regional co-operative action in educational innovations:

1. ***New orientations and structures in education.*** With the growing awareness of the inadequacy of the traditional forms of education, a number of Member States have in recent years initiated experiments which are intended to develop alternative structures and non-formal education modes.

2. ***Management of educational innovation.*** The objective of this programme area was to contribute to strengthening the national capacities for developing and implementing programmes of educational innovation.

3. ***Curriculum development.*** Qualitative change in the output of an education system stems in the final analysis from a change in the teaching/learning process, in which curriculum is a key factor. Curriculum change and innovation was seen as an energizing agent in education related to development.

4. ***Educational technology*** has been growing quite rapidly in many countries of the region, both in the form of specific techniques such as educational radio or television, and in the form of the application of systematic knowledge to the practical problems of education.

5. ***New structures and methods in teacher training.*** The main thrust of this programme area was on new structures and methods in teacher education which are related to national development goals and basic functional education. Teacher training in this context was seen as organically linked with curriculum development.

6. ***Science education.*** In the broad field of curriculum and instruction, science education has been an important concern of almost all the Member States in Asia. In APEID, high priority was accorded in this programme area to developing the programmes of science in basic education, linking science education to environment, the problems of everyday living and to rural development.

The second cycle (1978–1981) retained the same areas as the ones that guided the first cycle, but the scope of the Programme was expanded and certain lines of emphasis realigned in the light of MINEDASO IV. Seven programme areas were identified for action, namely:

i) Non-formal and alternative structures in education;
ii) Administration and management of educational innovation;
iii) Curriculum development;
iv) Educational technology;
v) Training of teachers, teacher educators and other educational personnel;
vi) Science (including mathematics) and technology education;
vii) Vocational and technical education (a new area).

The programmes for the third cycle (1982–1986) were identified by the regional consultation process, an important framework for the reviews being given in UNESCO's Second Medium-Term Plan (1984–1989) as approved by the General Conference of UNESCO at its Fourth Extraordinary Session (1982).

1. **Universalization of education: Access to education at first level by both formal and non-formal means**

Universalization of primary education is accorded high priority, with the activities focused on three main elements, namely, extension of educational opportunities for all children, with special emphasis on girls' education as well as educational opportunities for the deprived and disadvantaged population groups; secondly, retention of children in learning situations so that they are able to achieve the essential learning gains; and thirdly, raising the efficiency of the system as a learning system.

2. **Education for promotion of scientific and technological competence and creativity**

Science and technology education was an important programme area during both the first and second cycles of APEID. The major focus of the activities during the first cycle was science as an integral part of basic functional education and linking science education to real-life situations. During the second cycle this focus continued, with emphasis on development of instructional materials and low-cost science equipment.

The main aim of the third-cycle activities is on development of scientific attitudes, understandings and skills among populations, both in and out-of-school, through a programme of 'Science for All'. Special attention has been given to the development of 'open competence' and to nurturing of talent, and creating a climate of public understanding supportive of scientific and technological creativity.

3. **Education and work**

This programme area represents a new phase of evolution in APEID which earlier started as vocational and technical education. The emphasis of programme activities in the third cycle is on the incorporation of work and work experience in general education, notably in the reorientation of secondary education, and the modernization and development of vocational and technical education.

4. **Education and rural development**

Education plays an important and indispensable role in rural development — as a force as well as a mechanism to achieve intersectoral co-operation and make people aware of the need for development in order to prepare them to face the challenge of development endeavours.

5. **Educational technology with stress on mass media and low-cost instructional materials**

The programme area has continued from the first cycle. In the third cycle, the focal points of activities are instructional materials, textbooks and reading materials; distance learning techniques at the school level; and application of informatics to education.

6. **Professional support services and training of educational personnel**

As the education systems in the participating countries are undergoing enormous changes and even more fundamental reorientation is being planned for the future, the focus of the activities in

the third cycle has shifted to professional support services and training of educational personnel at all levels. The main aim of activities in this area is now on strengthening structures, organizations and methods for preparing and updating staff competencies to meet changing needs, and providing professional support based on research and evaluation.

7. **Co-operative studies and innovative projects of research-based experimentation related to educational development**

This programme area brings together some of the strands which were developed in the earlier cycles and adds to them new dimensions, especially the emphasis, on the one hand, on research and research-based experimentations in innovation and, on the other hand, on the renewing powers in the education process, namely, moral education, aesthetic education and cultural identity.

UNESCO's APEID programme has been ten years in operation, growing from its beginnings in MINEDAP III to a wide and diversified range of co-operative links among Member States, national institutions and organizations and educational workers, bound together by commonality of resolve for mutual help.

The programming experience in the three cycles has underlined the need for the programme to retain its evolutionary character, moving on to new directions in concert with all the constituent components that form the Programme.

The Colombo Conference (MINEDASO IV – 1978)

There were some important changes in the composition of the regional conference between Singapore (1971, MINEDAS III) and its convention at Colombo (1978). The countries in the Pacific area became members of the region which consequentially changed the title to Asia and Oceania.*

The number of countries which were Member States of UNESCO had increased, and for the first time the representation at the conference covered all countries of Asia.

As in the previous conferences, the trends in development and in policies were reviewed by MINEDASO IV, reaffirming thus a very useful sense of continuity from one ministerial conference to another.

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* The acronym for the conference became MINEDASO. Later the reference to 'Oceania' was changed to 'the Pacific' and the conference acronym MINEDAP has since been used.

The Conference then addressed what it perceived as the major issues of educational policies for the decade of the 1980s. These were clustered around four themes. MINEDASO IV went well beyond the formulations of earlier conferences in giving to education its ethical dimension. For example, almost all earlier conferences had referred to educational inequalities, MINEDASO IV articulated this theme as a **priority for action** in order to realize equal access to education by all groups of population. Similarly the linkage of education reform policies and plans with culture along with the economic and social aspects was stressed and reaffirmed, thus going beyond the earlier almost exclusive preoccupation with the economic aspects.

While the Colombo Conference renewed the endorsement of priorities for educational actions which needed continued attention in the countries (educational planning and management, teacher education, curriculum reform, etc.) it opened up new problem areas for reflection and action at the regional level. Notable was MINEDASO's attention to the problem of higher education in the region and its emphasis on reform action in this field. Traditionally international organizations have ignored or fought shy of higher education in the developing countries generally, and in Asia in particular. MINEDASO's initiative led the way to a regional programme in higher education under UNESCO and UNDP sponsorship which has made possible exchanges of experience and expertise among the countries in the region.

Another area to which MINEDASO IV gave special attention was the promotion of girls' and women's education, education of the deprived and disadvantaged populations and the provision of educational opportunities for special groups such as nomadic and tribal.

International and regional co-operation was in MINEDASO IV (as in MINEDAS III) a focal point of discussion. One of the significant contributions of MINEDASO IV was its recommendations to UNESCO to establish a standing advisory committee composed of the representatives of the Member States which should meet at least once every two years in between the ministerial conferences in order to follow up the recommendations of the ministerial conferences and generally to reinforce regional co-operation through systematic and regular consultation among the Member States. This recommendation was a response to the concern that many felt about a certain lack of continuity of thought and action from one regional conference to another. The General Conference of UNESCO at its twentieth session authorized the constitution of a standing advisory

committee for Asia and the Pacific, which has met every two years to carry out its mandate. An important landmark in the development of UNESCO's programmes in the region would have been reached when the standing advisory committee is also involved in advising on any new programmes proposed for the region; this extension of the mandate has been recommended by MINEDAP V (the Bangkok Conference of 1985).

When the Fifth Regional Conference (MINEDAP V) met at Bangkok in March 1985, the institution of the regional ministerial conference had spanned about 25 years. The number of countries in the region and those participating in the conferences had increased – from 18 countries in the first ministerial conference (1962) to 31 countries in MINEDAP V, representing 63 per cent of the world's population.

The landmarks – where do they lead?

What has been the contribution of the regional conferences? How effective have they been, and for what purposes?

Looking back, one is struck by the fact that the MINED conferences have been one of the important vehicles in the region for leading ideas and concepts, many of which found lodgement, with time lags of various durations, in the thinking and practices at the national level. The obvious examples are the concept of educational planning and its relation to overall development planning; education for all; literacy and development; non-formal education. However, this was not a case of a leading idea being injected from outside. Rather, the problems and needs in the countries were articulated in the 'leading ideas' as responses to such problems and needs. The regional forum of discussion and debate helped to bring them into focus more clearly; it was a process of crystallization rather than of injection or guidance or targetting. In the earlier MINED conferences, these did seem to be an attempt to set the course which the participating countries might follow, but this phase was soon over; the Bangkok Conference of 1965 was the watershed dividing the earlier approach from the latter developments.

By the same symbiotic processes, MINEDs have contributed to raising the level of awareness of the multifaceted aspects of educational development. In the 1950s and early 1960s, educational development was linked to a narrow view of economic growth, and this preoccupation is indeed discernible in the early MINEDs. In the Tokyo Conference (1962) – which gave such a powerful impulse to

primary education – and more elaborately the Asian Model (Bangkok Conference 1965), the economic growth imperative is dominantly present. Progressively the concept of educational planning has gained in depth and comprehensiveness. Quality in education, education's function in the preservation and renewal of the cultural heritage, moral education, the concern for social equity, and justice – all these are essential elements in educational development as they are in national development. MINEDAS III, MINEDASO IV and MINEDAP V have carried this message unequivocally. The underlying concepts have influenced policy thinking in the countries in a very substantial way.

While the MINEDs have contributed greatly to raising the level of awareness of the problems and the possibilities of solution, have they contributed in the same degree to the implementation of these leading ideas? The evidence would appear to be mixed, which is not surprising, given the diversities in the stages of development of the countries. Target-setting at the regional level as attempted in the **Karachi Plan** and the Tokyo Conference (1962) did not translate into national targets. The more flexible approach adopted in the **Asian Model** and the Bangkok Conference (1965) appears to have been more helpful in the practical task of developing educational targets at the national level.

In Asia and the Pacific the MINEDs have been the most important influence in promoting and cementing regional co-operation in education. With the diversities of economic, political and social systems in the region, the impetus for co-operation is by no means self-generative. MINEDs have been the medium for region-wide co-operation, which in turn has led to other co-operative associations of countries at sub-regional or bi-lateral levels; e.g. Southeast Asian Ministers of Education Organization. The institutional organization of MINEDs itself reflects the development of the co-operative dimension. To start with, a MINED was a single conference event that occurred at the invitation of UNESCO periodically, with an agenda set by the convening agency. The Singapore Conference (1971) proposed a 'continuing secretariat' for MINED and the Colombo Conference (1978) gave substance to it in the form of a standing advisory committee for follow-up of MINED recommendations and for preparing the next MINED.

The contribution of MINEDs has been decisive in the evolution of UNESCO's action in the region, both in the organizational

structure and the programmes. All these regional programmes trace their origin to the recommendations of MINEDs. The role of MINED in initiating a regional programme grew rather fitfully in the past, but now it is clearly gaining strength since the Colombo Conference (1978).

The MINEDs have, in their collective deliberations, identified priorities in educational development which also served as guidelines for regional co-operation. The exact order of priorities would of course differ from country to country, but the process of 'prioritization' has been an important element in the educational planning procedures at the national level. The deliberations of MINEDAP V (1985) summed up the following priorities for regional co-operation.

The first set of priorities stems from the concerns for social equity and the political commitment of Member States to provide 'education for all' through the universalization of primary education and achievement of universal literacy by the year 2000. This will require strong measures to develop effective planning and implementation capabilities at the national level, including efficient management information systems.

A second set of priorities derives from the concern for improvement of the quality of education, especially its relevance to scientific and technological development, and from the need to enhance the contribution of education to social, economic and cultural development. 'Science for All' is one area within this set. Another area is higher education, and the third area is technological and technical-based education.

The third set of priorities concerns the improvement of educational planning and management, the training and preparation of educational personnel, and the promotion of innovation to enable the entire education system to respond to rapidly changing socio-economic and cultural demands in a context of increasing resource constraints.

The application of these three sets of priorities would no doubt vary from country to country, but there are ample indications that these are recognized and shared by most countries in the region.

UNESCO's regional education programmes

UNESCO's activities in the region are extensive in scope and coverage, and it is not intended to describe them; nor would this be possible within the limits of this publication. However, some of the

current programmes are presented here which relate to the priorities identified by MINEDAP V (1985) and which exemplify the variety of forms in which regional co-operative activities are carried out.

The Asian and Pacific Programme of Educational Innovation for Development (APEID), described earlier in some detail, is the most compehensive of the regional programmes in terms of the substantive areas it covers, the numbers of countries and their nationals involved and the variety of the modes of operation. For example, in the period 1978-1985 APEID carried out or supported almost 600 activities at inter-country and at national levels, involving directly 11,500 educators in 24 countries of the region.

Universalization of primary education (UPE). Action for the promotion of UPE is being taken within the framework of APEID.

A joint project was initiated on how to meet the educational needs of young people without schooling or with incomplete schooling and a series of national workshops were held in the participating countries. The findings of these national workshops were then synthesized for sharing and diffusion regionally; the progress of UPE is monitored co-operatively and to this end the countries carried out national studies on UPE.

One of the persistent problems relating to UPE is drop-out and a study was made of the drop-out problem as it occurs in several countries in the region through case studies prepared by national teams (India, Malaysia, Socialist Republic of Viet Nam, Sri Lanka, Thailand). Following the case studies, national teams visited other countries to investigated how the problem was being met.

The learning needs of young people were studied in-depth and a co-operative project was developed by a task force on 'raising the achievement level of children at the primary level'. The project is now in full operation.

Curriculum development at the primary level is directly related to the learning needs of young people. An APEID project was initiated on integrating subject areas in the curriculum at the primary level followed by a regional training course to prepare curriculum development personnel for handling integrated subject areas. The problem of textbooks and reading materials, with particular reference to the achievement level in reading at the primary level, was considered at a regional seminar organized by the UNESCO Regional Office for Education in Asia and the Pacific (ROEAP) in co-operation with the Department of Education of the Government of New

Zealand (1983). Following the regional seminar, support was given to the participating countries to organize national-level workshops for training of personnel. The problems of multiple-class teaching and large classes at the primary level have been studied and the experiences are disseminated among the countries.

Curriculum development has figured prominently in the activities comprising inter-country study visits of curriculum specialists and mobile training teams.

MINEDASO IV stressed the importance of moral education and the teaching of culture in school. The National Institute of Educational Research, Tokyo, in co-operation with APEID, carried out a co-operative study on moral education, with the participation of the Member States in the region. The project started with a regional workshop in 1978 and was completed in 1980. The outcome of the project has been published and widely disseminated.

Struggle against illiteracy. The problem of illiteracy received particular attention in the Declaration of MINEDASO IV and that of MINEDAP V.

Although the problem of illiteracy has been overcome in a number of countries in the region, thus demonstrating the possibility of vanquishing illiteracy in a relatively short time span, it still remains a major problem and preoccupation in other countries. In recent years, many of the countries have announced policies which accord priority to the eradication of illiteracy. UNESCO has sought to assist them by strengthening co-operative action among them and by enhancing their national capacities for planning and implementation. UNESCO's activities for promoting literacy in the region fall into three broad categories:

a) Regional training activities in support of national efforts in literacy, including the preparation and publication of training materials;

b) Support to national programmes and activities at the request of the Member States concerned;

c) Promotion of inter-country exchanges of information, experience and personnel.

A series of regional training activities have been carried out since 1979, notably:

a) Planning, administration and monitoring of literacy programmes (India 1979, Thailand 1982, Pakistan 1983);

b) Development of curricular, motivational, instructional and follow-up materials, including those for media (Ho Chi Minh City, Socialist Republic of Viet Nam, 1980);

c) Research and evaluation (Jakarta, Indonesia, 1981);

d) A field operational seminar on literacy (China, 1982); and

e) The Asian Cultural Centre for Unesco (Tokyo) and Unesco/ROEAP jointly organized a regional workshop on the preparation of literacy follow-up materials (1983).

Training 'modules' for use in national training programmes have also been prepared. Another series of publications on literacy deals with national experiences in post-literacy. Considering the growing number of new literates and semi-literates emerging from the primary schools and literacy programmes in the region, the issue of follow-up work appears a matter of increasing importance, as well as an area in which an exchange of national experiences can be particularly fruitful. As a means for promoting such exchanges, the authors commissioned to prepare the studies of their nation's policies and experiences in post-literacy work participated in inter-country visits in 1981. National studies of literacy have been prepared by Afghanistan, Bangladesh, Burma, China, India, Indonesia, Lao People's Democratic Republic, Maldives, Nepal, Pakistan, the Philippines, the Socialist Republic of Viet Nam and Thailand.

UNESCO's support to national programmes of literacy takes the form of organizing study tours of key literacy personnel and providing technical assistance for planning, training and materials development at the national level. In the period 1979-1984 study tours for over 100 key educators were supported, with host facilities for study being provided by 14 countries of the region.

Technical assistance on request was provided to countries in the areas of programming, literacy materials development, training of personnel, strategic planning, literacy programmes for women, and research. Support was also provided by UNESCO to various national projects in the region in the form of consultancies, study grants, financial assistance to national workshops, purchase of equipment, and printing materials.

The International Institute for Educational Planning (IIEP) organized an 'International workshop on the planning and implementation of literacy and post-literacy strategies' in Madras, India, in 1982, with the participation of eminent leaders of literacy programmes from all regions of the world.

The International Institute of Education (Hamburg) organized an Asian orientation seminar on the development of a learning strategy for post-literacy and continuing education of new literates in the perspective of life-long education in New Delhi in 1983.

UNESCO also co-operated with the International Council for Adult Education and the German Foundation for International Development in organizing an 'International seminar on campaigning for literacy', in Udaipur, India, in 1983.

The UNESCO ROEAP has undertaken a series of publications and information activities in order to facilitate exchange of information among literacy workers in Asia and the Pacific. It has also worked closely with the Press Foundation of Asia, especially on the occasion of the International Literacy Day, to inform the general public of the serious problem of illiteracy.

Science and technology education. The programme activities of UNESCO in the field of science and technology education are linked to the recommendations of the MINEDAs, notably the MINEDASO IV Declaration which states ***inter alia***: 'education should accord a prominent place to science and technological education . . .' science and technology is a programme area in APEID, and the activities are carried out within the framework of that programme.

Science activities have been implemented through regional and inter-country co-operation, with the participation of Member States in programme development meetings and preparatory consultations. The aim is to contribute to enhancing national capacities for broadening the base of, and access to, science and technology education and its qualitative renovation, notably by linking science learning to life environment.

A series of activities, both at the regional and national levels, was focused on the renovation of curricula in science and technology education and the development of instructional materials. As part of its programme for 1979-1980, UNESCO developed a series of studies on 'Technology as a Component of General Education' in Australia, China, India, Japan, Pakistan, Sri Lanka and the Union of Soviet Socialist Republics. Following these studies, a pilot project on 'Technology in General Education' was initiated in 1981-1983 with the participation of Australia, China, India and the Philippines. As a result, methods and materials have been developed for inter-linking science and technology education and orienting them towards practical applications in life.

Curriculum development in the different science disciplines, as well as in subjects related to technology education, was the focus of a stream of training, materials development and exchange activities.

Another important area was nutrition which, in the context of the developing countries of the region, exemplified the linkage of science learning to real-life situations. A 'Technical working group meeting on curriculum development in health and nutrition education' was organized in 1980 by UNESCO/ACEID in co-operation with the National Council of Educational Research and Training, India, to develop guidelines with particular reference to curriculum and instructional materials. Following this, in 1983, a 'Regional writing workshop on health and nutrition education' was organized by UNESCO/ACEID jointly with the College of Education, University of the Philippines, which prepared teaching units on selected concepts in health and nutrition education and a training manual in nutrition education for use in the training of primary school teachers. Follow-up national workshops took place in several countries. Inventories of 17 innovative projects in six countries for health and nutrition education were also published.

The other aspects of science and technology education which have been the subject of activities include science related to technical and vocational education, development of suitable science teaching aids for the primary education stage, development of school science equipment, science education for the out-of-school population and development of prototype instructional materials for use in distance education.

An important element of UNESCO's science and technology education programme is the exchange of experiences and expertise among countries through the dissemination of information on innovative projects, inter-country study visits, exchange of resource persons, study grants and attachments. This programme has reached directly, at the regional and national levels, more than 1,200 key level science educators in Asia and the Pacific in the last four years. A comprehensive survey of the status of science and technology education in 24 countries of the region was undertaken in 1982-1983.

Promotion of technical and vocational education. A 'Regional seminar on technical and vocational education' was organized in 1979, with the co-operation of the Colombo Plan Staff College for Technician Education. The Seminar provided guidelines for the substantive actions required for the systematic integration of productive

work into the curriculum, training of teaching personnel from educational institutions and from the work place, production of teaching/learning materials, and for evaluation and accreditation.

Under the auspices of APEID, a series of activities were organized, notably:

a) Study visits, which enabled participants from 14 countries to study the design of programmes in different countries related to the development of productive skills;

b) A study group meeting on development of instructional materials for productive skills;

c) Inter-country study visits on technical and vocational education;

d) A technical working group meeting to develop guidelines for curriculum planning and instructional materials design for mechanical and civil/building projects;

e) Two regional training seminars on agricultural education (Tsukuba University, 1979);

f) Meeting of the Planning Panel on Work and Vocational Experiences in General Education;

g) A regional training seminar for teacher educators on the theme of 'Introduction of production work into teacher education';

h) A peripatetic inter-country workshop on new developments in technical and vocational education;

i) Four mobile training workshops organized in China, India, Pakistan and the Philippines; and

j) A portfolio of 14 studies on innovative experiences in various fields of skills training in vocational and technical education, and in general education.

Integrated rural development. UNESCO's activities in education for integrated rural development in the region have been planned and implemented within the framework of APEID. This is one of the programme areas of APEID, with a web of interrelated activities in curriculum development, science and technology education, community education, educational planning, and productive skills development. The activities were designed to support Member States' efforts to arrive at a better understanding of the educational aspects of rural development, to plan and implement educational

programmes, to devise methods of educational innovation, and to train the necessary personnel for integrated rural development. The activities comprised:

a) A series of sub-regional training workshops for key level personnel;

b) Support to national multi-disciplinary training courses and preparation of training materials;

c) Regional seminars on themes of general application, such as, 'Education for rural development', (Obihiro University, Japan), 'Alternative educational delivery systems for the rural poor', (INNOTECH, Philippines), 'The articulation of the extension function of agricultural colleges and universities', (SEARCA – Philippines); and

d) A portfolio of studies on education for rural development reflecting different aspects of the programme.

Environmental education. MINEDASO IV and also MINEDAP V invited UNESCO to develop environmental education programmes suited to the needs and context of the countries of the region.

A 'Regional workshop on environmental education' was held at ROEAP, Bangkok. The aims of the workshop were to share experiences on the development and implementation of environmental education in the region and to consider ways and means to further improve environmental education in the Member States of the region. Following the regional workshop, studies were made of the position of environmental education in the countries and were published.

Within the framework of the UNESCO programme on the development of materials for environmental education, and in co-operation with the Institute for the Promotion of Teaching Science and Technology (IPST), Thailand, teaching units for the lower and upper secondary levels on various topics in environmental education were prepared as exemplar materials.

Countries of the region have benefitted greatly from participation in the international meetings on environmental education, notably the 'International seminar on environmental education interdisciplinarity', (Budapest, 1980) and the 'International expert meeting on progress and trends in environmental education since the Tiblisi Conference', (Paris, 1982).

Population education. Population education is viewed in many countries of the region as a crucial area for educational action designed to complement other programmes in solving the problems caused

by rapid population growth, migration and urbanization. Population education programmes (with support deriving from UNFPA) are operational in 14 countries in Asia and in six countries in the Pacific.

The Co-operative Programme of UNESCO and UNFPA provides for a Regional Advisory Team on Population Education, based at UNESCO ROEAP in Bangkok, which provides continuous technical support to countries for their population education programmes. There is also a Regional Adviser for the Pacific countries based in Fiji.

Higher education. Activities in higher education in the region flowed in a systematic regional programme for the first time following the recommendation of MINEDASO IV (1978).

Twenty-two high-level officials and specialists from 17 countries which showed interest in participating in the future regional co-operative programme in higher education for development met in Singapore in 1981 for a programme development meeting organized by ROEAP in co-operation with the Regional Institute of Higher Education and Development (RIHED), Singapore. The meeting defined the scope and objectives and worked out the mechanism, structure and procedures of a regional co-operative programme. The Regional Co-operative Programme in Higher Education for Development became operational in 1982 with support derived from the Regular Programme of UNESCO and preparatory assistance funding of UNDP.

Fifteen Member States have so far joined the Co-operative Programme and nominated 60 institutions/offices of higher education to form a network. These institutions constitute three consortia on (i) innovations in higher education; (ii) policy, planning and management in higher education; and (iii) special research studies in higher education for development.

The consortium on innovations in higher education has started four projects in which the participating countries work together: namely, distance education, curriculum innovation, staff development, and participation of higher education institutions in developmental activities.

The consortia on 'policy, planning and management in higher education' and on 'special research studies on higher education for development' met in a joint session and initiated a series of activities. In conjunction with the above meeting, inter-country study visits for two groups of key personnel in higher education were organized to facilitate on-site study of the development in higher education in the region and exchange of experiences.

A Regional Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in Asia and the Pacific was adopted unanimously by the international conference of States convened by UNESCO in Bangkok in 1983, with the participation of representatives from 22 countries of the region.

The International Institute for Educational Planning has carried out studies on higher education and employment in Bangladesh, India, Indonesia, Malaysia, Pakistan, Philippines, and Sri Lanka. Most of the studies have been co-published with national publishers.

Another significant development (under UNESCO's Science Sector) was the establishment in 1981 of the Asian Physics Network (ASPEN), the current membership of which includes university physics departments from 20 Asian countries. A large number of training and other activities have been carried out.

Over the past years, UNESCO's Social Sciences Sector has developed a programme to promote the social sciences in higher education in Asia and the Pacific. This programme has three major components: (i) overview of the social science situation in various countries; (ii) review of growth points in and trends of research in social science disciplines; and (iii) survey of status of teaching of social sciences in professional education.

Training of educational personnel. UNESCO's activities relating to the training of educational personnel in the region are developed largely within the framework of APEID.

In recent years important changes have taken place in many countries of the region in the training systems. In order to make information about these changes available on a wider basis, a series of studies on policies relating to the training of educational personnel and on new educational techniques for preparing educational personnel were carried out in co-operation with the Member States and have been published. Another series of 24 studies brings together the Asian experiences in new educational techniques for preparing educational personnel in response to an urgent demand for the universalization of primary education. These have been published by ROEAP/ACEID under the title 'New techniques for preparing educational personnel'. Advanced-level national workshops for teacher educators were assisted in several countries; on the basis of the experiences in these workshops, a regional workshop was held in co-operation with the Government of Malaysia.

A 'Regional seminar on new personnel profiles in relation to changes in society and educational systems' was held at ROEAP in 1980 to consider national experiences on alternative mechanisms for monitoring changes in educational systems in relation to changes in the society. This was followed by national workshops and studies in which qualification profiles and training plans and materials were prepared for different categories of educational personnel.

In-service training of teachers and other personnel has emerged as a priority area in educational development and change. In 1978, a 'Regional training workshop on systems approach to education with particular reference to in-service teacher training programmes' was organized by ROEAP and was followed by national training workshops in several countries. ACEID set up two study groups (1979), one of which examined the possibilities of developing sample material for the use of participating countries for the in-service training of teachers, while the second group studied training methodologies based on locally available learning resources. These studies led to the initiation of a co-operative project on in-service training of primary school teachers.

Closely related to the 'key personnel' approach to in-service training is the expanding practice in many countries of the region of 'clustering' different educational institutions for mutual support, especially in the rural areas. Known by different names in different countries – 'school complexes', 'cluster schools', 'school networks', – the basic idea is the same and is particularly relevant to in-service training. This has been the subject of a series of studies by ACEID.

Distance education is yet another area of increasing importance in expanding access to educational opportunities and in the training of teachers and other educational personnel. ROEAP worked in co-operation with the Universiti Sains Malaysia to organize a regional symposium on distance teaching. Shortly after that a technical working group on distance learning materials for pre-service and in-service teacher education was convened to develop a set of materials and guidelines on their preparation, use and renewal. This was followed by sub-regional seminars on further training of national officials and specialists in distance education. Following these, a series of national pilot training programmes have been held in several countries.

Educational planning and administration. Educational planning and administration was considered by MINEDASO IV as one of the

major areas where vigorous action was to be taken to facilitate equal access to education, to mobilize all learning and financial resources, to ensure the efficiency of education systems and promote reforms and renewal of education closely linked to economic, social and cultural development.

In responding to the recommendation, UNESCO's approach was to mobilize to the maximum extent and in a co-ordinated way, the capacities and expertise of the existing institutions throughout the region for mutual benefit.

The UNESCO ROEAP has conducted a 'group training course' every year comprising four phases: instruction by correspondence; training workshop and practical exercises; study and observation of educational planning and management in operation in a particular country; and instructional follow-up. The correspondence course materials, consisting of 48 lesson units in educational planning and management, have been developed and used extensively in UNESCO's training programme as well as in government conducted national training courses. Many countries have either translated them into their national languages or adapted them to meet their national needs.

UNESCO provided technical support to Member States to organize national-level training courses, fellowships to enable participation States in organizing regional or sub-regional training seminars. In the period 1978 - 1984, about 600 persons were reached directly by the training programmes supported by UNESCO at regional or national levels. UNESCO has also helped Member States to establish and develop their institutional capacities in educational planning/management. Twelve countries have so far established such institutions, and the UNESCO ROEAP has been working in close co-operation with them.

In order to identify emerging needs and priority areas for regional technical co-operation in the field of educational management, the UNESCO ROEAP organized a 'Programme development meeting in educational administration'. The meeting identified major areas of management in education with a view to improve operational efficiency, strengthening national training capacities in educational management and planning, particularly at the micro level, and application of planning and management methods and techniques to areas of major concern in education, such as the universalization of primary education and literacy. In the light of

the meeting's findings, a new series of training workshops was initiated with emphasis on management aspects.

The first regional training workshop in this series dealt with the planning and management of programmes to universalize primary education (UPE) and took place in Dhaka, Bangladesh. It was directed at education officials engaged in various aspects of planning and implementing UPE programmes and projects in the developing countries of the region.

The second regional training workshop, held in China, centred on the planning and implementation of universal primary education in a common framework with adult literacy. It was the first regional activity of its kind to use an interdisciplinary approach to consider the goals of achieving full primary education and eradication of adult illiteracy.

UNESCO's International Institute for Educational Planning (IIEP, Paris) carried out an extensive programme of activities in the region in co-operation with the UNESCO ROEAP. A large number of educational planning and management specialists from countries of Asia participated in the advanced training programmes of the IIEP and were trained in techniques and methods for the design, preparation, implementation and evaluation of plans for the development of education. During the last two weeks of the course participants made study visits to the UNESCO ROEAP and specialized educational planning institutions in the region.

UNESCO provided assistance in the identification and formulation of field projects in educational planning and management, as well as subsequent technical assistance and backstopping in Afghanistan, Bangladesh, Bhutan, Lao People's Democratic Republic and Pakistan. An innovative modality linking studies to national capacity building and to project identification and formulation in the area of educational planning and management, through a process of joint programming task forces and support to interdisciplinary technical plan formulation meetings, has been proven effective in a number of countries of the region such as Maldives and Pakistan.

Educational facilities development. The activities in the field of educational facilities development involved: (i) training; (ii) advisory services to Member States; (iii) studies; and (iv) information dissemination.

Increasing numbers of in-service training programmes in the form of internships were held at UNESCO ROEAP. These internships

covered areas such as the design and costing of women's hostels and multi-purpose schools and the design of a primary teacher training institute and prototype furniture for rural primary schools. Support has been provided by the UNESCO ROEAP to several national training courses, notably in Bangladesh, China, Maldives, Philippines, the Socialist Republic of Viet Nam and Thailand. Studies on training needs in the field of educational facilities were completed in 1982 in Australia, Sri Lanka and Thailand. Advisory missions were fielded to Afghanistan, Bangladesh, Bhutan, Burma, Indonesia, Lao People's Democratic Republic, Malaysia, Maldives, Nepal, Pakistan, Philippines, Sri Lanka, the Socialist Republic of Viet Nam, Thailand and Tonga. The main thrust was to provide technical advice on designing buildings and furniture in relation to the major programmes of educational reform and development in these countries, such as universal primary education, teacher training, technical and polytechnic institutes or pre-school or daycare centres. Support was also provided to assess the damage caused by natural disasters and to prepare a programme of reconstruction (e.g. in Bangladesh and Tonga).

Educational research. Educational research in relation to the teaching/learning process and in support of educational reforms has received special attention in the regional activities. Within the framework of APEID, the National Institute of Educational Research, Tokyo, undertook extensive research activities including a series of regional seminars, on educational research in relation to education reforms for the training of young educational researchers, on the development of research concerning the implementation and evaluation of reforms of educational contents and methods, and on educational research with special reference to the exchange of research outcomes. A 'Regional workshop on application of research findings to improve teaching practice' was held in co-operation with the Republic of Korea.

Educational technology. Educational technology has great potential for assisting in solving the problems which arise from the expansion of education systems and from the need for their qualitative improvement. This is especially so if educational technology is understood as the systematic application of scientific knowledge to the organization and process of education, rather than merely a set of modern techniques and aids.

Educational technology has been an important programme area in APEID. A series of study visits were supported in the Member

States to study open learning systems in operation. Support was also given to national workshops in 11 countries on request.

The experiences of the national workshops and study visits were synthesized in reports which were widely disseminated. The Japan Council of Educational Technology Centres (which is an associated centre of APEID) initiated a series of Asian seminars on educational technology and under a funds-in-trust arrangement of the Government of Japan with UNESCO, mobile training teams combining inter-country study visits with in-country training workshops were fielded in India, Maldives, Nepal, Pakistan, the Republic of Korea and Sri Lanka.

A series of APEID activities was devoted to the development of low cost aids and instructional materials. National workshops were held in several countries, followed by regional meetings. Portfolios of low cost aids have been published and distributed. Another set of activities was based on the use of locally available learning resources.

Activities at the national level. As part of its direct co-operation with Member States, UNESCO is currently involved in the implementation of 60 education projects in the developing countries of the region. These projects are funded mainly by multilateral sources within the United Nations System, notably the World Bank, UNDP, UNFPA, UNICEF and UNEP, with UNESCO serving as the 'executing agency' or the 'technical agency' and co-operating with the governments concerned in accordance with their stated requirements. The nature of these projects varies considerably, but almost all of them are to be found in the priority areas discussed in this chapter. Thus, educational sciences and their application account for 22 projects, training of educational personnel 22 projects, educational planning and management 12 projects, science and technology education nine projects, broadening access to education ten projects, and so on. As they become fully functional, several of the projects are brought by national authorities into the regional networks such as APEID.

In purely monetary terms, and compared to total aid-flows to education in the region, the technical co-operation inputs provided through educational projects executed by UNESCO have been relatively modest: about US $50 million over a five-year period (around 1981–1985), or an annual average of about US $10 million. This reflects mainly the fact that, in terms of expertise in education, many of the countries of the region have become self-sufficient and aid-flows are therefore mainly concentrated on educational

infrastructures such as school buildings and equipment. The international transfer of funds to education, therefore, cannot be used as the sole or even main indicator to assess the importance of international technical co-operation in education. The efficiency and relevance of such co-operation is very much a function of the quality of diagnosis, design and preparation work which accompanies educational project and programme formulation, and of the effectiveness of monitoring and evaluation procedures. It is in these latter areas that UNESCO has focused the strengthening of its capacities by giving more attention to monitoring the implementation of education projects, to mobilizing the required financial and human resources, and to developing more effective forms of action, particularly in regard to training.

Part Two

SITUATION OF EDUCATION IN ASIA AND THE PACIFIC

Chapter Three

NUMBERS COUNT: THE DEMOGRAPHIC CONTEXT

The sheer size of the total population and the large numbers added to it each year are the dominant characteristics of the demographic landscape of Asia and the Pacific. Today, some 3,000 million people, almost two-thirds (63 per cent) of mankind, live in this region. This population is expected to reach almost 3,800 million in the year 2000 – an estimated net increase of around 50 million per year.

Table 1. Total population: Estimates and projections for the world and Asia and the Pacific (1970-2000)

	No. of countries	1970	1985	2000
		(millions)		
World	(all)	3,696	4,826	6,119
Asia and the Pacific	(31)	2,328	3,047	3,781
– as % of world total		(63.0%)	(63.1%)	(61.8%)
Industrialized countries in Asia and the Pacific*	(4)	361	417	461
Developing countries in Asia and the Pacific	(27)	1,966	2,629	3,320
– as % of total Asia and the Pacific		(84.5%)	(86.3%)	(87.8%)
– as % of world Developing countries		(75.0%)	(72.7%)	(69.3%)

* Industrialized countries refer to Australia, Japan, New Zealand, USSR

There is a very wide range of difference in the size of the countries by population, reflecting the diversity that characterizes the region. China and India, the two most populous countries of the

world, together account for nearly 60 per cent of the population of the region. Another 25 per cent of the population is in the next five largest countries – Bangladesh, Indonesia, Japan, Pakistan and USSR. The remaining 24 countries account for 15 per cent of the aggregate population. The development burden that the population imposes is distributed with large variations in its incidence.

Massive as the population is, it adds very large numbers every year; the population in Asia has been doubling every 30 years. The high growth rate of the population has cast a heavy burden on the resources of the developing countries. For example, it is estimated that school places must be increased by as much as 50 per cent just to be able to maintain the existing primary enrolment level in the developing Asian countries (and the existing level is well short of full enrolment). ***The Karachi Plan*** (for universal primary education in Asia) fell far short of its target year (1982) because the rate of population growth in age-group 6-11 (and also in all age groups) turned out to be much higher than estimated.

There are new significant signs that the rate of population growth in several developing countries in the region is slowing down. It is estimated that in the period 1985-2000 the developing Asia and Pacific region will add, in absolute numbers, 691 million to its already large population. This however represents a declining rate, from 2.0 average annual rate in 1970-1980 to 1.7 in 1980-1990 to 1.5 in 1990-2000. The most striking decline is estimated for China, with a growth rate of 1.0 by the year 2000.

Table 2. Average annual rate of growth of total population (1970 – 2000)

	No. of countries	1970-80	1980-90 (per cent)	1990-2000
Asia and the Pacific				
Whole region of which:	(31)	1.9	1.6	1.4
Industrialized countries	(4)	1.0	0.8	0.6
Developing countries	(27)	2.0	1.7	1.5

Another notable characteristic of the population in the developing countries of Asia and the Pacific is the high proportion of young people under 15 years of age. In 1970, 41.2 per cent of the total population were children and youth aged 0-14 years old, which is estimated to have fallen to around 35.2 per cent at present and is

projected to be around 30.0 per cent by the year 2000. In the developed countries of the region, the proportion which was 27.3 per cent in 1970 has declined to 23.8 per cent at present and is projected to be around 22.2 per cent in the year 2000. In absolute numbers, there are presently over 1,000 million children and youth under 15 years of age in Asia and the Pacific. Providing educational opportunities to this mass of young people is likely to remain a major concern in educational policy for the coming years.

It is important to note that a clear trend is establishing for a decline in the rate of increase in the population in age-group 6-11, which corresponds to the primary education cycle. The following Table 3 gives an overall view for the developing Asia and the Pacific region. The growth rate appears to fluctuate considerably in 1980-1990 period but this is due to unusual fluctuation in the rate for China; excluding this, a more regular pattern emerges which nonetheless establishes the declining trend.

Table 3. Population aged 6-11 years in developing countries of Asia and the Pacific: decennial increases and average annual growth rate (1970-2000)

Region	Period	Decennial increase (000)	Annual average increase (%)
Developing countries (27 countries)	1970-1980	59,237	1.8
	1980-1990	−2,397	−0.1
	1990-2000	30,193	0.8
Developing countries (excluding China – 26 countries)	1970-1980	38,713	1.9
	1980-1990	28,641	1.2
	1990-2000	22,375	0.9

The slow down in the growth rates of primary education age-group would have occurred well before the year 2000 in almost all the developing countries; in a substantial number, the down turn would occur around 1995 and in some important instances around 1990 or before; indeed, in China, the most populous country of the world, this has already occurred. The pattern of slow down has important implications for policies for the achievement of universal primary education, namely: expansion now and consolidation when the down turn begins to operate. The patterns of the slow down are illustrated in the following Table 4 which covers the top eight most populous developing countries in the region:

Table 4. Population: for primary education age-group (6-11) average annual rates of growth in selected countries (1970 – 2000)

Country \ Period	1970-1980 (% p.a.)	1980-1985 (% p.a.)	1985-1990 (% p.a.)	1990-2000 (% p.a.)
Bangladesh	2.5	2.7	2.8	1.9
China	1.5	–2.7	–2.0	0.7
India	1.9	0.6	0.7	0.6
Indonesia	1.5	–0.2	0.1	0.6
Pakistan	2.7	2.5	2.7	0.8
Philippines	1.9	2.0	1.8	0.8
Socialist Rep. of Viet Nam	2.2	3.5	0.7	0.1
Thailand	2.4	0.1	0.4	0.6

The developing countries of Asia and the Pacific are seen as predominantly rural in terms of the population distribution as well as the characteristics of their economies. By and large, this general picture holds for the present situation: about 72 per cent of the population in the developing Asia are in rural areas and only about 28 per cent in urban centres, the percentage of urban population in individual countries varies from 5 per cent to 90 per cent.

But this picture is changing faster than earlier imagined. There is in motion a rapidly expanding internal migration, carrying every year millions from the villages to the towns, from the smaller towns to the larger cities. Here are some of the magnitudes: in 1960, the urban population in the region was about 466 million; it increased to 650 million by 1970; if the present trend of 20 years doubling period is maintained, it may reach 1,623 million by the year 2000 – that is 43 per cent of the total population.

The rapid pace of urbanization in Asia is reflected in the growth of large cities, where population is doubling every ten years – Bangkok, Bombay, Calcutta, Jakarta, Karachi, Manila, Seoul, Shanghai and Kuala Lumpur. It is evident that the net rural-urban migration is strongest in those developing countries in which the industrialization process is under way and this has important implications for educational development. The migrating population in the 'first generation' is predominantly in the younger age-groups (18-45 years). The kind of educational background and skills that they bring with

them would be vitally important for their adjustment to the urban environment as also for their productive contribution. The distribution of educational facilities would also be affected such as the demand for teachers and school premises.

Population, its size, rate of growth, composition and mobility, is a vitally significant factor in the development policies of the developing Asia and the Pacific region in the context of their resource endowments. It can become a constricting factor in development. This is recognized with an increasing sense of urgency in the development plans of several countries in the region, and population planning policies have been adopted. There are outstanding success stories in the implementation of such policies which are reflected in a quite dramatic fashion in the population growth rates of the countries. Experience has shown that in population planning, the clinical approach though indispensable, is not sufficient; the educational process must be engaged in order to achieve lasting effects and have an impact on long-term demographic trends. Furthermore, studies have shown that the level of education, particularly of the female population, has a direct impact on the lowering of fertility rates through informed exercise of reproduction choices. The Fifth Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia and the Pacific (MINEDAP V)* meeting in Bangkok from 4 to 11 March 1985, adopted Recommendation No. 3 calling upon the Member States to promote ***population education*** as an integral part of national education development plans and upon UNESCO to assist the Member States in this regard.

Education and quality of life profile. Data are not available which would permit building up a composite picture of the quality of life characteristics of the populations, including their educational endowment profile. However, it is possible to sketch out the broad outlines suggestive of the general situation.

The level of educational attainment varies considerably from country to country, reflecting the very different paths that educational development has taken in different countries during the past several decades. It should also be borne in mind that concepts such as 'literacy', 'primary education', 'secondary education', are relatively recent; they do not necessarily cover 'education' as imparted in the traditional systems which were quite common in the countries. Given these terms of discourse, there are extreme variations in

* Hereinafter the Conference is referred to by its acronym and its number in the series of Ministerial Conferences in Asia and the Pacific; namely MINEDAP V.

educational attainments. At one end of the range are the industrialized countries of the region (Australia, Japan, New Zealand, USSR) which have educational attainments levels that are among the world's highest, at the other end of the range are countries where the vast majority of the population have received no schooling and illiteracy is pervasive. Between these two extremes lie countries, such as, Fiji, Philippines, Republic of Korea, and Sri Lanka, where 80 per cent or more of the population have been through schools. Then, there are the remaining countries where between 20 and 60 per cent of their population has not received any schooling.

Low levels of educational attainments go with sharp disparities as between urban population and rural population and as between men and women.

Even from the rather limited data that are available, it is clear that poverty, level of educational endowment and life expectation are bound together in 'circular causation'. Table 5 brings together for a few selected developing countries some data illustrative of the interrelationship.

Table 5. Population profile: Income, poverty, life expectancy, educational attainment (selected countries)

Country	GNP per capita 1983 (US$)	% of population below poverty line (1975)	Life expectancy at birth 1983 (years)	Estimated adult literacy rate 1985 (%)	Percentage of the population having attended: No schooling	Primary school	Secondary school	Post-secondary
Bangladesh	130	64	50	33	82.3	10.0	6.9	0.9
China	300	–	67	69	44.5	32.7	21.7	1.0
India	260	46	55	44	72.5	11.3	13.7	2.5
Indonesia	560	–	54	74	41.1	48.4	9.6	0.8
Malaysia	1,860	12	67	73	43.4	42.6	13.9	----→
Nepal	160	–	46	26	41.2	29.4	22.7	6.8
Pakistan	390	43	50	30	78.9	8.7	10.5	1.9
Papua New Guinea	760	–	54	45	82.6	13.2	4.2	----→
Philippines	760	33	64	86	14.1	57.6	16.4	11.9
Republic of Korea	2,010	8	67	94	19.7	34.5	36.9	8.9
Sri Lanka	330	14	69	87	17.8	50.5	29.4	2.3
Thailand	820	32	63	91	20.5	69.7	6.8	2.9
Turkey	1,240	–	63	69	39.7	45.1	13.1	2.2

Chapter Four

HOW MANY, HOW FAR: THE EXPANDING EDUCATION

The post-Second World War decades have been in Asia and the Pacific, as in other parts of the world, a period of growth and development in education unparalleled in magnitude and reach: for example, between 1960 and 1982 the total number of young people enrolled in educational institutions increased by 245 million.

The countries of the region entered the expanding decades from different starting points and with their education systems at different stages of development. However, all countries of the region (with one possible exception) had set up their education systems in the familiar form of three levels. In many countries, this system, supervised by an education ministry or department, was established as far back as the third quarter of the nineteenth century. The 'modern' system of education was therefore not unfamiliar or new when the winds of change began stirring as the twentieth century got underway. What was new was the question, who are to be served by the system and to what purpose?

During the colonial period, different colonial powers had different policies in education. In certain countries, education was restricted virtually to selective primary level, with very limited development of the second level and almost none of the third level. In certain other countries, secondary and higher education was given priority and developed very selectively with a narrow base of primary education. Significantly, the countries which were independent set the goal of universal primary education quite early in the course of developing their national systems of education. Only in one country (Philippines) was a high level of enrolment at the primary stage achieved during the colonial period.

The organization of the education system in terms of the structure by levels and stages, entrance age and duration of stages, varies across the countries. The age of entrance to primary education varies

from five to seven years, though age six is the most common; the duration of primary education also varies, though by far the most common spans are five years (in 13 countries) and six years (15 countries). The duration of secondary stage varies from five to eight years, the most common being six years divided into two cycles (3 + 3 or 4 + 2). As enrolments in increasing numbers began passing through the system, the need for reorganizing the structures became apparent. Almost all countries have reorganized their systems, some quite frequently.

Certain trends in structural organization are becoming well established. A notable one is the expansion of pre-primary or early childhood education which in the industrialized countries is becoming an integral part of the education system, with 70 per cent or more of pre-primary age-group children covered by early childhood education programmes. With a rising concern for the quality and efficiency of primary education in the developing countries, early childhood education may catch policy attention much sooner than is generally imagined. The other trend in structural organization is in the lengthening of first level education by unifying the primary and lower secondary stages. At one time in the 1970s, some countries shortened the primary cycle to four or even three years in order to get more children into the schools at reduced financial cost. This proved to be quite unsuccessful, with increased dropouts and pupils' low levels of achievement and the experiment has been wisely abandoned.

One of the important developments in recent years, particularly since the mid-1970s, is the evolution in several countries of complementary non-formal education programmes. Many non-formal programmes aim at providing educational opportunities for young people who were bypassed by the formal system: for example, the Equivalency Programmes of Thailand, Viet Nam's Complementary Education Programme, China's Spare-time Primary Schools' Programme. Non-formal programmes may involve adult learners also, and range from post-literacy programmes (e.g. Indonesia) to skills development and production-oriented adult education programmes, such as the Republic of Korea's Saemaul Movement. Unfortunately, reliable data on the number of people involved in non-formal programmes are not yet available in most countries of the region; so the statistical data presented in this section relates only to the formal education system and fails to encompass what may well develop into a new movement of far-reaching significance.

Overall enrolment trends

The great surge in the expansion of education took place in 1950s and 1960s, notably in primary education. There was some slowing down in the 1970s, with emphasis shifting from the primary to secondary and post-secondary. The down-turn in the national economies during that period quite clearly contributed to the malaise. However, in the period 1960-1982, taken as a whole, the enrolment increase in primary education in the developing Asia and the Pacific was ahead of the increase in the related age-group population – 188 million enrolment increase to 159 million age-group population increase.

Table 6 presents the data on enrolment for the period 1970-1982 for the region. It helps to illustrate the magnitudes involved and the overall enrolment trends.

Table 6. Enrolment by level of education in Asia and the Pacific (1970 – 1982)

Region and level of education	Enrolment (in thousands)				Average annual growth (in %)		
	1970	1975	1980	1982	1970-1975	1975-1980	1980-1982
Total Asia and the Pacific (31 countries)							
Total all levels	372,866	471,432	518,068	521,980	4.8	1.9	0.4
First level	266,037	328,311	347,954	353,900	4.3	1.2	0.9
Second level	95,329	128,122	151,295	147,543	6.1	3.4	–1.3
Third level	11,500	14,999	18,819	20,537	5.5	4.6	4.5
Developed Asia and the Pacific (4 countries)							
Total all levels	74,753	74,508	74,818	75,199	0.1	0.1	0.3
First level	37,448	33,642	35,526	36,336	–2.1	1.1	1.1
Second level	30,683	33,417	31,244	30,799	1.7	–1.3	–0.7
Third level	6,622	7,449	8,049	8,064	2.4	1.6	0.1
Developing Asia and the Pacific (excl. China) (26 countries)							
Total all levels	166,302	200,115	239,042	258,859	3.8	3.6	4.1
First level	123,309	143,729	166,158	177,845	3.1	2.9	3.5
Second level	38,163	49,337	63,274	69,716	5.3	5.1	5.0
Third level	4,830	7,049	9,610	11,298	7.9	6.4	8.4

The drive towards expanding provision of education, notably at the primary level was at its peak in the developing countries in the 1950s and 1960s. There was some slowing down in the 1970s but seen as a whole the period of 1960s to 1980s is one of growth. Enrolments at all levels grew from 263 million in 1960 to 522 million in 1982 – a doubling in 22 years. Sixty-one per cent of the increase (about 149 million) was in primary education, 35 per cent (about 85 million) at second level education and 4 per cent (about 11 million) at the third level.

As between the three levels of education, a trend was discernible towards higher rates of growth at the second and the third levels. Between 1960 and 1980, primary education enrolments grew by 172 per cent while the second level and the third level enrolments achieved 298 per cent and 391 per cent increase. Within this broad picture of growth and movement are to be discerned a number of disparities and imbalances.

Table 7 shows education progress in terms of enrolment ratios at different age-groups arranged by groups of countries.* Gross enrolment ratios, according to the national school-level structures, are taken because they are nearer to the realities in the countries even though they cannot be used for international comparison without qualification. A shorter period of 1970-1980 (with 1985 estimates marked in asterisk when data is available) is selected for convenience of presentation.

The first noticeable characteristic that emerges from this rather long table is the range of variation among the countries and indeed within the same group of countries.

Educational growth in terms of numbers has followed a steady course in the four industrialized countries, mainly in line with the demographic fluctuations. There is the unmistakable trend for a longer first level education, unifying the primary and the lower cycle of secondary. In keeping with the trend in the school education, the third level has also shown a steady increase. What does not appear in these statistics but is an important development to note is the growth of early childhood education which in the industrialized countries is becoming a part of the education structure.

* The groups of countries classification is explained on pages from 50 to 53. Briefly in Group A are included countries which have achieved 100 per cent enrolment ratios in primary education; in Group B are countries with 85-99 per cent enrolment ratios and in Group C are countries with less than 70 per cent enrolment ratios.

Table 7. Gross enrolment ratios by level of education (according to national structures) (1970 – 1985 est.)

Country	Year	First level	Second level	Third level	Total
Industrialized countries					
		(6-11)	(12-16)	(17-21)	(6-21)
Australia	1970	114.8	82.1	16.3	75.5
	1975	107.0	87.1	23.1	75.3
	1980	110.3	86.3	25.2	76.1
		(6-11)	(12-17)	(18-22)	(6-22)
Japan	1970	98.8	86.1	17.6	66.6
	1975	98.7	91.3	26.3	74.6
	1980	100.9	93.2	30.3	79.4
		(5-10)	(11-17)	(18-22)	(5-22)
New Zealand	1970	110.3	77.1	17.4	74.6
	1975	106.6	80.6	26.3	75.8
	1980	104.7	80.6	24.5	72.7
		(7-11)	(12-16)	(17-21)	(7-21)
USSR	1970	104.4	85.5	21.9	73.2
	1975	97.4	92.1	20.2	69.5
	1980	106.3	93.5	20.9	70.3
Group A (developing countries)					
		(7-11)	(12-16)	(17-21)	(7-21)
China	1970	102.1	27.2	0.1	46.8
	1975	135.7	44.4	0.5	63.5
	1980	121.1	51.3	1.1	61.3
		(7-12)	(13-18)	(19-23)	(7-23)
Indonesia	1970	77.0	15.4	2.6	39.3
	1975	82.8	19.5	2.2	41.2
	1980	111.8	27.7	3.6	54.7
	1985*	113.8	41.0	5.2	58.5
		(6-10)	(11-16)	(17-21)	(6-21)
Lao People's	1970	63.7	3.9	0.1	24.5
Democratic Rep.	1975	72.3	8.2	0.3	29.6
	1980	97.1	17.8	0.4	42.1

Country	Year	First level	Second level	Third level	Total
Group A (developing countries) (cont'd)					
		(8-10)	(11-17)	(18-22)	(8-22)
Mongolia	1970	115.5	68.5	6.2	62.8
	1975	108.0	80.6	7.7	68.0
	1980	105.3	87.0	12.8	71.1
		(7-12)	(13-16)	(17-21)	(7-21)
Philippines	1970	108.3	45.8	16.8	66.4
	1975	107.8	54.0	16.4	66.7
	1980	109.7	63.0	24.1	71.9
	1985*	109.2	68.5	25.5	73.7
		(6-11)	(12-17)	(18-22)	(6-22)
Republic of Korea	1970	103.4	41.6	7.4	61.2
	1975	106.9	56.3	8.2	62.6
	1980	108.7	79.7	13.5	69.9
	1985*	104.5	91.4	23.8	75.9
		(6-11)	(12-17)	(18-22)	(6-22)
Singapore	1970	106.0	46.1	6.2	59.1
	1975	110.6	52.6	8.5	58.7
	1980	106.6	55.4	8.0	55.7
		(6-10)	(11-17)	(18-22)	(6-22)
Socialist Republic of Viet Nam	1975	118.9	39.6	1.8	57.6
	1980	112.6	48.1	2.3	59.1
	1985*	113.0	54.3	3.2	62.8
		(5-10)	(11-17)	(18-22)	(5-22)
Sri Lanka	1970	99.0	47.0	1.1	54.8
	1975	77.4	47.7	1.2	46.6
	1980	99.8	51.0	2.7	54.9
	1985*	103.2	70.0	4.1	63.3
		(6-10)	(11-16)	(17-21)	(6-21)
Turkey	1970	107.5	26.1	5.0	49.6
	1975	107.6	29.5	5.7	49.1
	1980	101.5	39.6	4.9	50.3

Country	Year	First level	Second level	Third level	Total
Group B (developing countries)					
		(5-9)	(10-15)	(16-20)	(5-20)
Burma	1970	87.2	21.3	1.8	40.3
	1975	82.8	21.8	1.9	39.0
	1980	85.4	21.5	4.3	40.3
		(5-9)	(10-15)	(16-20)	(5-20)
India	1970	73.2	25.7	5.5	58.3
	1975	76.4	26.1	7.4	39.3
	1980	79.0	29.7	7.5	40.7
	1985*	86.3	31.3	8.3	42.9
		(6-10)	(11-17)	(18-22)	(6-22)
Iran	1970	73.5	30.8	2.8	39.4
	1975	94.9	39.9	4.7	50.7
	1981	94.8	43.7	3.3	51.9
	1985*	101.9	44.5	3.2	55.2
		(6-11)	(12-18)	(19-23)	(6-23)
Malaysia	1970	87.4	33.9	1.5	49.3
	1975	91.1	42.2	2.7	52.0
	1980	92.0	49.3	3.9	53.9
	1985*	93.0	52.0	5.3	55.0
		(7-12)	(13-18)	(19-23)	(7-23)
Thailand	1970	90.8	18.9	2.6	44.7
	1975	90.3	28.3	3.3	48.2
	1980	95.8	28.6	12.5	52.0
	1985*	95.0	35.2	20.4	53.9
Group C (developing countries)					
		(7-14)	(15-18)	(19-23)	(7-23)
Afghanistan	1970	24.5	5.3	0.7	14.3
	1975	27.4	8.1	1.0	17.0
	1980	33.6	10.2	1.7	21.0
	1985*	38.5	13.4	3.1	24.5
		(5-9)	(10-16)	(17-21)	(5-21)
Bangladesh	1970	51.6	14.0	1.8	24.8
	1975	71.4	18.4	2.2	33.6

Country	Year	First level	Second level	Third level	Total
Group C (developing countries) (cont'd)					
Bangladesh (cont'd)	1980	63.5	15.2	2.7	28.9
	1985*	69.7	13.9	2.6	30.7
		(6-11)	(12-16)	(17-21)	(6-21)
Bhutan	1970	5.6	0.6	–	2.6
	1975	8.1	1.2	–	3.8
	1980	12.4	1.4	0.2	5.8
	1985*	15.4	2.8	0.5	12.8
		(6-10)	(11-15)	(16-20)	(6-20)
Nepal	1970	26.0	9.7	1.7	13.9
	1975	39.9	9.6	1.9	19.2
	1980	69.3	15.3	2.7	32.2
	1985*	75.2	31.8	5.4	40.7
		(5-9)	(10-16)	(17-21)	(5-21)
Pakistan	1970	40.3	12.8	1.8	20.2
	1980	55.6	14.7	1.7	22.5
	1985*	60.9	22.4	2.4	30.7
Pacific area group (developing countries)					
		(6-11)	(12-17)	(18-22)	(6-22)
Fiji	1970	105.0	52.9	0.8	62.5
	1975	115.5	65.9	2.6	67.9
	1980	110.4	74.3	2.5	66.4
	1985*	108.1	78.9	4.1	68.7
		(7-12)	(13-18)	(19-23)	(7-23)
Papua New Guinea	1970	51.9	8.1	0.5	24.7
	1975	55.8	11.6	2.4	27.8
	1980	63.2	12.2	1.8	30.4
	1985*	71.3	13.6	2.0	34.7
		(5-11)	(12-18)	(19-23)	(5-23)
Samoa	1970	98.0	41.4	0.8	58.6
	1975	94.8	53.2	1.9	62.9
	1980	100.6	62.5	3.6	65.0
		(6-11)	(12-18)	(19-23)	(6-23)
Tonga	1970	117.0	70.3	–	74.1
	1975	115.6	71.2	–	75.7
	1980	127.4	81.8	4.4	79.3

* Provicional or estimated data

In the developing region, there are quite large numbers of countries (classified into groups A and B) which have achieved, or are on the threshold of achieving, high levels of enrolment at the first and second levels. The growth at the third level is a fluctuating one.

In Group C countries, the main shortfall is at the primary level rather than the second or even the third levels.

The developing countries of the Pacific region have been grouped together because the island countries have unique characteristics and problems. Their first and second levels of education have quite wide coverage but not so the third level. In 1968, Fiji, Samoa and Tonga, together with eight other Pacific countries, joined together in a regional higher education institution, namely The University of the South Pacific, in order to meet their higher education needs. Papua New Guinea has its own university.

The rates of enrolment growth have varied from one five-year period to another as will be seen from Table 7.1 which is intended as a supplement to Table 7. (Because of the very wide fluctuations in the growth rates that have occurred in China, figures for that country are not included in Table 7.1)

Table 7.1. Average annual growth in enrolment (1970 – 1982)

Region and level of education	Average annual growth (in %) 1970-1975	1975-1980	1980-1982
Total Asia and the Pacific (31 countries)			
Total all levels	4.8	1.9	0.4
First level	4.3	1.2	0.9
Second level	6.1	3.4	–1.3
Third level	5.5	4.6	4.5
Industrialized Asia and the Pacific (4 countries)			
Total all levels	0.1	0.1	0.3
First level	–2.1	1.1	1.1
Second level	1.7	–1.3	–0.7
Third level	2.4	1.6	0.1
Developing Asia and the Pacific (excl. China)(26 countries)			
Total all levels	3.8	3.6	4.1
First level	3.1	2.9	3.5
Second level	5.3	5.1	5.0
Third level	7.9	6.4	8.4

In the developing countries of the region, there are two other lags in the expansion of education. The first is the disparity in educational provision, such as between urban areas and rural areas. In the beginning, schools tended to be established on urban sites and only gradually was provision made for them in the rural areas. Internal migration has also added to the depletion of educated persons in the rural community. Generally, the level of literacy and the level of primary education enrolment in a country are indicators of how wide the disparity in educational provision is between the urban and rural areas of that country. For example, countries in Group C show disparities as wide as 60 per cent; that is, for one hundred children in school in urban areas, only 40 are in school in rural areas. In Group B also there are considerable disparities but with a narrowing trend.

The second lag is in female education. Viewed in the aggregate, the enrolment of girls in formal schooling would be seen as making encouraging progress in recent years. Between 1970 and 1982, the number of girls enrolled at the first level rose from 110 million to 153 million and at the second level from 37 million to 59 million. There was a substantial increase in the number of young women enrolled at the third level, too, from 4.1 million in 1970 to 7.5 million in 1982. However, these aggregate figures mask a wide range of disparity among the developing countries of the region.

Table 8 shows the gross enrolment ratios for girls in 23 countries of the region at the first and second levels. At the first level, the ratios range from as low as 10 per cent to more than 100 per cent (due to under- and over-age children enrolled); two countries have a ratio below 30 per cent, whereas 11 developing countries and the four developed countries have attained or approached 100 per cent gross enrolment of girls. At the second level, 11 countries have a ratio of less than 30 per cent, but there has been considerable improvement since 1970: only five countries now have a ratio below 20 per cent compared to ten in 1970, and six developing countries now have a 50 per cent or more gross enrolment ratio of girls, compared to only one country in 1970. It is evident that for countries with a total enrolment ratio (i.e. boys and girls) below 80 per cent at the first level, the critical problem in achieving universal primary education will be to increase the enrolment of girls. Although the situation of girls has been improving, further progress in southern Asian countries will require the determined and consistent action of their respective governments. Time series data on first-level

enrolments for the region indicate that when girls account for about 30 per cent of the total enrolment, a rapid increase towards the 50 per cent mark takes place.

Table 8. Gross enrolment ratios for girls in primary and secondary education (23 countries) (1970 and 1982)

Country	Primary			Secondary		
	1970	1982	Variation 1970-1982 (in % pts.)	1970	1982	Variation 1970-1982 (in % pts.)
Developing countries						
Afghanistan	7	14	+ 7	2	5	+ 3
Bangladesh	34	49	+15	6	7	+ 1
Bhutan	1	10	+ 9	–	1	+ 1
Burma	83	84	+ 1	17	21	+ 4
India	56	70	+14	15	21	+ 6
Indonesia	71	109	+38	11	27	+16
Iran, Islamic Rep. of	53	81	+28	21	33	+12
Lao People's Dem. Rep.	48	93	+45	2	21	+19
Malaysia	84	91	+ 7	28	50	+22
Mongolia	116	108	– 8	69	90	+21
Nepal	8	43	+35	3	9	+ 6
Pakistan	22	33	+11	5	8	+ 3
Philippines	107	107	–	45	67	+22
Republic of Korea	103	103	–	33	82	+49
Singapore	102	102	–	45	65	+20
Socialist Rep. of of Viet Nam*	114	106	– 8	39	48	+ 9
Sri Lanka	94	101	+ 7	48	55	+ 7
Thailand	87	93	+ 6	16	29	+13
Turkey	93	95	+ 2	15	28	+13
Developed countries						
Australia	115	108	– 7	80	92	+12
Japan	99	100	+ 1	86	94	+ 8
New Zealand	109	104	– 5	76	82	+ 6
USSR	103	105	+ 2	86	96	+10

* Data for 1970 refer to 1975.

Expansion of education by levels

Primary education. Universal primary education was first adopted as a goal for the countries of the Asian region in the 'Karachi Plan' (1960), which proposed 'that every country of this region should provide a system of universal, compulsory and free primary education of seven years or more within a period of not more than 20 years (1960-1980) . . .' This target has not been attained, due in part to a more rapid expansion of the population than foreseen in 1960, and in part to a slackening of the expansion impetus in a few countries in the early 1970s. However, the number of countries which did achieve universal primary education for their children in the last three decades and the magnitude of the effort involved are without parallel in the history of education. The first programmes for universal primary education took 50 to 60 years to accomplish in the countries which are now industrialized. Countries of Asia and the Pacific region listed in Group A and some of the countries in Group B (in Table 6) have been able to achieve a comparable level of universal primary education in less than 30 years.

Universalization of primary education has now been accepted by many governments in the region as a priority objective and target dates have been fixed for achieving UPE. The effect of this renewed commitment to the provision of primary education for all children is beginning to show. However, in the years ahead, it will call for sustained and consistent effort. To assess the magnitude of the effort, it may be convenient to look at the existing situation in terms of the gross enrolment ratios which different countries have reached.

Four patterns are discernible in the present provision of primary education. The four industrialized countries (Australia, Japan, New Zealand and USSR), which account for 13.7 per cent of the total regional population, have already fully achieved universal schooling of ten years' duration. Of the developing countries, 13 have a gross enrolment ratio for both sexes of 100 per cent or more. The enrolment ratio should, however, be interpreted by taking into account the fact that many children enrolled in the primary education system would be over- or under-the-age-group equated with primary education. One hundred per cent would thus generally mean that a proportion of children are over- or under-age and correspondingly an equivalent number of children of the primary age-group would not in fact yet be enrolled. The empirical evidence is that in the first full expansion of primary education, the enrolment ratio will go as high

as 125 per cent with the additional numbers of over/under age children. The ratio then begins to decline towards a one hundred per cent correspondence between the number of children enrolled and the population of the primary education age-group, and if the momentum of expansion is maintained, this 'normalization' takes 10-15 years.

In the 13 developing countries, therefore, which show 100 per cent or more enrolment ratio, further increases in enrolments should be expected to take place in order to bring into schools the unenrolled children, including those in remote areas where education provision is not yet adequately developed. These 13 countries account for 48.5 per cent of the region's population. (They are shown in Table 9 as Group A, plus Fiji and Tonga in the Pacific Area Group).

Group B (in Table 9) comprises five countries (30.0 per cent of the total regional population) which have reached 85-99 per cent gross enrolment ratios. This is the empirical threshold beyond which further expansion is possible in a relatively short-term, essentially by reducing the drop-out and grade repetition and increasing the enrolment; notably of girls, and of children in remote geographical areas.

Countries in Group C (five countries) have less than 70 per cent gross enrolment ratios, ranging to a low of 15 per cent. They account for 7.7 per cent of the total population of the region. The recent average annual growth rates of enrolment in this group have been around 5-10 per cent, but would have to be raised and sustained at around 7-12 per cent to ensure universal primary education in the 1990s.

Countries in the Pacific area (other than the industrialized ones) are separately grouped because of their characteristics and educational needs. Applying the criteria on which the grouping is done, Fiji and Tonga would correspond in Group A, Samoa to Group B and Papua New Guinea to Group C.

Taking the region as a whole, the current shortfall in universal primary education means that more than 60 million children of primary age-group are not enrolled. This defines broadly the major dimension of the problem.

Efficiency of schools. In many countries, a major factor undermining universal primary education is that a large proportion of the children who enrol in schools drop out before completing the entire primary cycle; in fact, they drop out usually within the first three years. The incidence of drop-out indicates the low efficiency of the

Table 9. Selected indicators of the expansion of primary education in Asia and the Pacific (29 countries) (1970 – 1982)[1]

Country	Gross enrolment ratios (in %)				Disparity between sexes (in % pts.)		Enrolment: average annual growth rate (in %)		
	1970	1982			1970	1982	1970-	1975-	1980-
	MF	MF	M	F	MF	MF	1975	1980	1982
Developed countries									
Australia	115	109	110	109	0	1	–1.1	1.0	–0.8
Japan	99	100	100	100	0	0	–1.5	2.7	0.3
New Zealand	110	102	103	101	2	2	–0.5	–0.5	–1.2
USSR	104	107	...	...	...	...	–3.7	0.3	1.8
Developing countries – Group A (100% and more)									
China	102	116	127	104	...	23	7.5	–0.6	–0.9
Dem. People's Rep. of Korea [2]	...	113	115	112	...	3	...	...	...
Indonesia	77	116	122	109	12	13	3.6	7.5	2.8
Lao People's Dem. Rep.	64	100	107	93	31	14	5.3	8.6	4.2
Mongolia	116	106	105	108	9	–3	2.7	2.1	2.1
Philippines	108	107	106	107	2	–1	1.7	2.3	0.7
Republic of Korea	103	104	106	103	1	3	–0.5	0.2	–1.7
Singapore	106	104	106	102	8	4	–2.0	–2.3	–2.2
Soc. Rep. of Viet Nam[3]	119	113	120	106	11	14	...	1.3	3.5
Sri Lanka	99	104	106	101	10	5	–3.0	7.7	1.5
Turkey	108	103	111	95	29	16	1.7	0.7	3.5
Group B (85-99%)									
Burma	87	86	88	84	9	4	1.8	3.3	2.9
India	73	85	100	70	34	30	2.9	2.0	4.4
Islamic Rep. of Iran	74	97	112	81	41	31	8.2	3.1	3.5
Malaysia	87	92	93	91	7	2	2.4	1.3	1.5
Thailand	91	95	98	93	8	5	3.0	3.3	0.8
Group C (below 70%)									
Afghanistan	25	36	57	14	34	43	5.4	7.3	6.4
Bangladesh	52	64	78	49	34	29	9.6	–0.3	3.2
Bhutan	6	15	19	10	9	9	10.3	11.1	10.9
Nepal	26	72	141	43	35	98	11.9	14.1	19.2
Pakistan	40	58	81	33	35	48	5.6	6.1	4.6
Pacific Area Group									
Fiji	106	109	110	109	4	1	1.6	–1.2	0.6
Papua New Guinea	52	66	73	58	25	15	4.5	4.7	4.3
Samoa	98	99	97	101	–2	–4	2.1	0.2	–0.9
Tonga	117	108	110	105	6	5	1.5	–0.7	–2.1

1. Within each group, countries are ranked according to the value of the gross enrolment ratio for both sexes (MF) in 1982.
2. Data refers to 1976
3. Data for 1970 refer to 1975

education system and represents a waste of human and financial resources invested in the system. More importantly, drop-out means that children's aspirations are frustrated by the inability of the school to respond effectively to their learning needs.

Table 10 sets out for 14 countries in which studies have been made, the course of a cohort entering schools in a particular year. The 'surviving' numbers of the cohort are shown for a mid grade (grade III) and the last grade of the primary cycle according to the national structure of the country concerned. The 14 countries are arranged in the same groups as in earlier Table 9, thus facilitating cross referencing of the country's enrolment ratio and the drop-out/ survival rates.

The variation in the drop-out rates would appear to be very wide and this is indeed the case if Group A countries are compared with those in Group B or C. Within a group, the variation is fairly limited, suggesting that countries which have been able to achieve high enrolment ratios are also able to secure higher efficiency in the schools; conversely the countries with relatively lower enrolment ratios have also lower level of efficiency leading to high drop-out rates.

The causes of drop-out are known: they are social, cultural, economic and also educational. Indeed, because the educational causes work in combination with social and economic causes, they are often under-estimated by educators. Studies have shown that drop-out affects the enrolment of children from poor families more than others. Since the incidence of drop-out is higher in the first three grades, most drop-outs retain no basic skills provided by school.

Unless direct measures are taken aimed specifically at the problem of drop-out, the percentage of drop-outs in an educational system tends to maintain itself around the same level over a long period of time. In a number of developing countries determined educational measures aimed at preventing large-scale drop-out have been effective within a quite short period and have dramatically raised the retention rates (for example, Indonesia, Malaysia, Mongolia and the Republic of Korea).

Another form of wastage at the primary level is grade repetition, due to poor examination scores or low attendance or other reasons. In many countries of the region, the average repetition rate is around 10-12 per cent at the primary level.

Table 10. Survival and dropping out in primary education (14 countries)

Country	Cohort beginning in	Proportion of cohort reaching last grade of primary cycle: Grade I	Grade III	Last grade	Survival %	Drop-out %
C Group						
Afghanistan	1973	1,000	901	571	57	43
	1980	1,000	798	595	60	40
Bangladesh	1974	1,000	323	189	19	81
	1980	1,000	374	204	20	80
Bhutan	1976	1,000	289	199	20	80
B Group						
India	1970	1,000	–	410	41	59
Malaysia	1970	1,000	973	929	93	7
	1980	1,000	994	974	97	3
Thailand	1973	1,000	891	465	47	53
	1976	1,000	891	468	47	53
A Group						
Fiji	1971	1,000	977	914	91	9
	1980	1,000	961	904	90	10
Indonesia	1971	1,000	900	558	56	44
	1980	1,000	916	681	68	32
Mongolia	1977	1,000	922		92	8
Philippines	1979	1,000	801	715	71	29
Republic of Korea	1970	1,000	970	944	94	6
	1980	1,000	979	968	97	3
Singapore	1971	1,000	1,000	956	96	4
	1980	1,000	994	900	90	10
Sri Lanka	1971	1,000	888	874	87	13
	1980	1,000	1,000	908	91	9
Tonga	1978	1,000	954	920	92	8

Several studies show that repetition, especially in the earlier grades, does not improve achievement levels of the children, and has no discernible effect on school 'standards'. In the developing countries, most repeaters tend to become drop-outs. One study in Thailand found that two-thirds of all drop-outs had been repeaters.

Unlike drop-out, wastage by repetition is a purely school-made phenomenon. Table 11 shows the repetition rates by grade for 11 developing countries of the region. It will be seen that countries which have relatively high drop-out rates have higher incidence of repetition in the first two or three grades.

Table 11. Repetition rates by grade in primary education (both sexes, 11 countries)

Country	Year	Grade I	Grade II	Grade III	Grade IV	Grade V	Grade VI	Grade VII	Grade VIII
					per cent				
Afghanistan	1980	2.4	2.7	2.3	2.3	12.0	10.0	12.0	8.0
Bangladesh	1980	27.3	11.1	15.4	8.3	8.0			
Bhutan	1978	15.5	16.0	14.2	15.2	9.1	14.3		
Fiji	1980	5.5	3.0	3.5	3.1	3.7	4.8		
Indonesia	1980	14.5	11.2	9.0	7.0	5.0	1.7		
Mongolia	1978	1.6	2.3	1.6					
Philippines	1979	3.1	2.7	2.7	2.4	2.2	1.5		
Singapore	1980	0.2	0.3	0.1	0.4	13.0	10.2		
Soc. Rep. of Viet Nam	1977	9.4	6.6	5.3	5.1	3.8			
Sri Lanka	1980	8.1	11.4	12.6	13.1	11.4	8.2		
Thailand	1976	18.1	11.1	11.1	4.4	9.5	4.5	1.9	

Second-level education. Second-level education in most countries is divided into two stages. The lower secondary stage is generally a continuation of first-level education. Access to it is quite open and there is a high transition rate from the first level, ranging from 40 per cent to as high as 80 per cent in the developing region, and 95-100 per cent in the industrialized countries. The upper stage is more selective and leads to post-secondary education (higher education or training institutions) or to working life. This stage also tends to be diversified in terms of curricula. There are a few exceptions to this general structural pattern. In some countries, second-level education is one unified span of four years (e.g. Afghanistan and the Philippines). The trend in the evolution of the structure at the second level in the region is for second-level education to be generally differentiated by type, i.e. general secondary, vocational and technical education, and teacher training.

The main avenue of access to second level education has been traditionally the transition from primary education. In recent years, other paths of access are being developed in some of the countries, intended to facilitate entry into second level for those who have prepared themselves outside the structures of the formal school system. The advances in communication technologies have offered new opportunities via distance learning techniques. While their total output may not yet be of a magnitude to make these paths a significant alternative to the formal system, their potential for contributing towards the creation of a wide base of educational opportunities is very great, bearing in mind the resources constraints in the developing countries.

In absolute numbers, total enrolments at the second level of education in the region rose from 95 million in 1970 to 148 million in 1982. In the four industrialized countries, enrolments fluctuated within a narrow range, basically indicative of a stabilized population level. In the developing countries (not including China because of wide enrolment fluctuation during this period), the rate of enrolment increase in the period 1975-1980 declined (see Table 12), possibly reflecting the effects of the slackening in the growth of primary enrolments in 1970-1975. In the period 1980-1982, the rate showed a further small decline.

Table 12. Selected indicators of the expansion of secondary education in Asia and the Pacific (28 countries) (1970 – 1982)

Country	Gross enrolment ratios (in %)				Enrolment: average annual growth rate (in %)		
	1970	1982			1970-1975	1975-1980	1980-1982
	MF	MF	M	F			
Developing countries							
Afghanistan	5	13	20	5	12.0	7.9	14.4
Bangladesh	14	17	26	7	8.6	–0.8	7.5
Bhutan	1	2	3	1	17.0	5.9	18.8
Burma	21	23	25	21	3.1	2.6	5.7
China	27	41	49	32	11.4	4.6	–3.7
Fiji	53	76	73	79	7.7	2.1	–0.4
India	26	31	41	21	3.3	4.7	4.5
Indonesia	15	32	38	27	7.7	9.9	9.7
Islamic Republic of Iran	31	40	48	33	8.3	4.7	–1.0
Lao People's Dem. Republic	4	26	32	21	18.7	19.9	24.6
Malaysia	34	51	52	50	8.1	5.3	2.4

Country	Gross enrolment ratios (in %)				Enrolment: average annual growth rate (in %)		
	1970	1982			1970-	1975-	1980-
	MF	MF	M	F	1975	1980	1982
Mongolia	69	86	82	90	7.5	5.6	2.9
Nepal	10	21	32	9	2.9	12.7	20.2
Pakistan	13	19	29	8	5.8	6.7	6.5
Papua New Guinea	8	13	17	8	11.2	3.9	3.9
Philippines	46	65	62	67	5.9	5.0	3.1
Republic of Korea	42	86	91	82	10.3	6.1	2.9
Samoa	41	69	66	72	9.5	4.4	1.8
Singapore	46	65	65	65	4.2	–1.6	4.6
Socialist Republic of Viet Nam [1]	40	52	56	48	...	6.0	6.2
Sri Lanka	47	52	50	55	3.3	2.9	1.9
Thailand	19	30	31	29	11.6	3.5	5.4
Tonga	70	96	97	94	2.2	6.2	2.2
Turkey	26	43	57	28	5.9	6.5	5.1
Developed countries							
Australia	82	88	86	89	2.9	–	2.0
Japan	86	92	92	93	0.3	1.6	1.6
New Zealand	77	81	80	82	3.1	–0.1	–0.4
USSR	86	96	...	...	2.2	–2.6	–2.0

1. Data under 1970 refer to 1975.

Table 12 also shows that the disparity between male and female enrolments at the second level has been somewhat narrowed in some countries. Aggregate regional figures show that the proportion of female pupils in total enrolment at second level has been improving, though very slowly. It rose from 36 per cent in 1960 to 38.5 per cent in 1981.

Another trend is that secondary education is now reaching out into the rural areas, and the number of pupils drawn from the rural areas is rising. Complete data on the location of secondary schools are not available for all countries, but judging from the surveys which have been done in several developing countries, the locational shift in favour of rural areas is marked and is likely to increase in the coming years.

The Asian Model of Educational Development,* in making projections for the period 1965-1980, proposed that in the developing countries, 30 per cent of the enrolment at the second level should be in technology-based and vocational education by 1980. The present situation (see Table 13) is very far from the target; of the developing countries, as many as nine have less than 3 per cent enrolment in technical and vocational education and eight have between 3 and 10 per cent; only three are close to 20 per cent. Table 13.1 presents the breakdown of technical/vocational enrolments by fields of study. Enrolments in agricultural education continue to be low and fail to supply the modernizing agricultural sector in the Asian economies with skilled manpower. One reason for the faltering progress of technical and vocational education at the second level is the 'upgrading' phenomenon by which institutions are raised to a higher level for reasons of prestige or status or response to parental preferences. Their contribution to preparing much needed middle-level manpower is lost by this upgrading phenomenon.

Table 13. Enrolment at the second level of education: Percentage distribution by type (27 countries) (1970 and latest available data)

Country	1970			Year	Latest available data		
	Teacher	technical/ vocational	general training		Teacher	technical/ vocational	general training
Developing countries							
Afghanistan	92.6	3.1	4.3	1981	90.9	–	9.1
Bangladesh [1]	99.6	0.3	0.1	1981	85.4	0.3	14.3
Bhutan	55.0	7.0	38.0	1983	58.7	1.9	39.4
Burma	98.6	0.6	0.8	1979	*98.0	*0.6	*1.4
China	99.8	*0.1	*0.1	1982	96.3	0.9	2.8
Fiji	92.6	1.8	5.6	1981	94.3	0.8	4.7
India	98.9	0.1	1.0	1977	*98.4	0.1	1.5
Indonesia	73.8	4.0	22.2	1981	86.6	3.7	9.7
Islamic Republic of Iran	95.8	1.3	2.9	1982	95.3	–	4.7
Lao People's Dem. Republic	64.9	21.2	13.9	1980	87.3	10.5	2.2
Malaysia	*96.5	*0.6	*2.9	1983	98.6	–	1.4
Mongolia	87.3	1.7	11.0	1982	91.9	0.9	7.2
Nepal [2]	97.2	0.5	2.3	1977	92.3	0.9	6.8
Pakistan	97.6	0.9	1.5	1981	98.0	0.3	1.7
Papua New Guinea	73.0	7.7	19.3	1981	80.5	3.3	16.2

* Refer to Chapter Two for a description of the ***Asian Model***.

Country	1970 Teacher	technical/ general training	vocational	Year	Latest available data Teacher	technical/ general training	vocational
Developing countries (cont'd)							
Republic of Korea	85.7	–	14.3	1983	81.9	–	18.1
Samoa	95.8	3.0	1.2	1982	95.9	1.4	2.7
Singapore	91.7	–	8.3	1982	94.5	–	5.5
Socialist Rep. of Viet Nam	...	...	...	1976	97.1	0.8	2.1
Sri Lanka	98.9	0.7	0.4	1976	98.9	0.6	0.4
Thailand	73.6	4.1	22.3	1981	79.0	0.1	20.9
Tonga	99.0	1.0	–	1982	95.7	0.7	3.6
Turkey	81.3	5.0	13.7	1982	77.4	0.7	21.9
Developed countries							
Australia[3]	84.1	–	15.9	1982	100.0	–	–
Japan	81.2	–	18.8	1981	85.2	–	14.8
New Zealand[4]	99.3	–	0.7	1982	99.3	–	0.7
USSR	92.9	0.6	6.5	1982	85.5	0.9	13.6

1. Data under 1970 refer to 1973.
2. Data under 1970 refer to 1972.
3. Technical/vocational education previously classified at the second level is now considered to be at third level.
4. Data under 1970 refer to 1975.

* Provisional or estimated data.

Table 13.1. Technical/vocational education: distribution of enrolment by field of study (23 countries) (Latest year available)

Country	Year	Total (=100%)	Fields of study (%'s)					
			Commercial programmes	Health	Industrial programmes and engineering	Agriculture	Home economics	Others and not specified
Developing countries								
Afghanistan	1981	14,532	6.4	7.4	30.3	24.6	6.4	24.9
Bangladesh	1981	345,166	0.1	0.1	4.4	0.4	–	94.9[1]
Bhutan	1983	2,090	2.1	–	27.0	–	–	70.9[2]
China	1982	1,331,600	8.2	12.3	16.2	32.8	–	30.5[3]
Fiji	1981	2,396	46.4	–	47.3	6.3	–	–
India	1977	390,552	–	1.0	33.0	1.1	–	64.9[4]
Indonesia	1981	611,281	40.2	1.6	38.8	3.4	5.0	11.0
Islamic Republic of Iran	1982[5]	127,389	...	9.8	61.0	3.0	4.4	21.8
Lao People's Democratic Republic	1980	2,002	–	–	93.5	–	–	6.5
Malaysia	1983	16,736	15.0	–	70.1	7.5	7.4	–
Mongolia	1982	18,400	7.1	16.3	29.9	14.7	6.5	25.5
Nepal	1977	20,875	28.5	–	9.6	53.6	8.3	–
Pakistan	1981	37,663	33.2	–	66.8	–	–	–
Papua New Guinea	1979	7,131	–	–	96.9	–	–	3.1
Republic of Korea	1983	825,454	40.1	–	23.7	7.9	0.1	28.2
Samoa	1980	264	–	37.1	51.5	–	–	11.4
Singapore	1982	10,303	10.9	–	89.1	–	–	–
Sri Lanka	1976	4,778	47.8	1.5	43.6	1.9	2.8	2.4
Thailand	1977	238,660	32.1	–	40.2	4.9	3.9	18.7

Table 13.1. Technical/vocational education: distribution of enrolment by field of study (23 countries) (Latest year available) cont'd.

Country	Year	Total (= 100%)	Fields of study (%'s)					
			Commercial programmes	Health	Industrial programmes and engineering	Agriculture	Home economics	Others and not specified
Developing countries (cont'd)								
Tonga	1981	624	24.0	13.1	7.7	17.6	–	37.5[6]
Turkey	1982	524,128	18.1	3.3	35.2	0.3	0.1	43.0
Developed countries								
Japan	1981	1,479,023	38.9	1.9	33.8	12.5	10.3	2.6
New Zealand	1981	2,472	69.7	1.5	15.4	–	–	13.4

1. This figure refers to programmes given in religious institutions.
2. This figure is composed of religious studies (63 %) and unspecified (7.9 %).
3. This figure refers to students in professional schools, n.e.s.
4. This figure is composed of oriental studies (58.4 %) and others (6.5 %)
5. Excluding students in commercial programmes, religion and theology.
6. The figure refers to service trades, religion and theology.

Third-level education

The expansion of third-level education was at a higher rate than at other levels. In the regional aggregate, the growth rate was 4.6 per cent in the period 1975-1982, adding 5.5 million students. As may be seen from Table 14, the variations across the countries were quite considerable and in some countries there were adventitous factors which contributed to wide fluctuations from one five-year period to another. Table 14 might usefully be read with Table 14.1 to obtain an overall picture of the third-level education relationship to the population of a country.

A few countries do not yet have any university structure at the third-level (for example, Bhutan, Lao People's Democratic Republic and Maldives), while the Pacific countries, (Fiji, Samoa, Tonga and eight other countries) are served by a regional university — The University of the South Pacific.

There is a significant trend towards diversification of higher education which does not comprise only universities and colleges within the university framework; new institutional structures are growing up with specialized focus or which are more sharply oriented to economic and manpower demands. Such institutions range from highly specialized technological institutions, at one end of the spectrum, to short cycle programmes, and junior colleges. In some countries (such as Japan, Republic of Korea) where this diversification has progressed further, as much as one third of the third-level enrolment is in institutions and programmes outside the traditional degree-awarding universities/colleges.

A new and rapidly expanding phenomenon in the region is the use of distance education techniques in 'open university' institutions to meet the demand for higher education, especially by employed youth and adults. Australia and New Zealand have been pioneers in this field for quite a long time, and several other countries in the region are now developing their own open university systems and are beginning already to cater to very large numbers of students.

The expansion in higher education is a reflection of individual demand and of national development policies. Even though unemployment among educated young people in some countries is quite high, it has not stemmed the continuously rising demand for higher education. Eight rate-of-return studies done in the region show that both the individual and social returns on higher education are quite substantial. Higher education is considered a profitable

Table 14. Higher education: total enrolment, percentage female and average annual growth rates (25 countries) (1970 to latest year available)

Countries	1970 Total	1970 %F	1975 Total	1975 % F	Latest year available Year	Latest year available Total	Latest year available % F	Average annual growth rates[1] in percentage 1970-1975	Average annual growth rates[1] in percentage 1975-LYA
Developing countries									
Afghanistan	7,732	15	*12,256	*14	1982	19,652	...	9.7	7.0
Bangladesh	117,603	10	158,604[2]	13	1981	244,091	14	5.1	9.0
Bhutan	–	.	–	.	1980	322	22	.	.
Burma	49,572[3]	37	83,703[2]	49	1978	121,609	50	11.0	20.5
China	[illegible]8,000	...	501,000	33	1982	1,175,238	26	59.9	12.9
India[4]	3 [illegible]14,852[3]	22	4,615,992	23	1979	5,345,580	26	4.9	3.7
Indonesia	248,220	*25	296,326[2]	28	1982	616,117	32	3.0	13.0
Islamic Republic of Iran	74,708	26	151,905	28	1982	135,717	30	15.3	–1.6
Lao People's Democratic Republic	424	19	828[5]	28	1980	1,408	31	18.2	9.4
Malaysia	14,459	27	24,318[5]	30	1981	67,368	43	13.9	15.7
Mongolia	6,874	...	9,861	51	1979	11,826	61	7.5	4.6
Nepal	17,025[6]	18	19,482[2]	20	1980	38,450	19	1.9	18.5
Pakistan	114,980	21	127,932	24	1979	156,558	27	2.2	5.2
Papua New Guinea[7]	1,032	16	2,869	12	1982	3,458	15	22.7	2.7
Philippines	651,514	56	969,952[8]	*55	1981	1,335,889	53	5.8	8.3
Republic of Korea	201,436	24	297,219	27	1982	954,066	26	8.1	18.1
Singapore	13,771	30	22,607	40	1982	30,966	40	10.4	4.6

Table 14. Higher education: total enrolment, percentage female and average annual growth rates (25 countries) (1970 to latest year available) (cont'd)

Countries	1970 Total	1970 % F	1975 Total	1975 % F	Latest year available Year	Latest year available Total	Latest year available % F	Average annual growth rates[1] in percentage 1970-1975	Average annual growth rates[1] in percentage 1975-LYA
Developing countries (cont'd)									
Socialist Republic of Viet Nam	...	...	80,323	40	1980	114,701	24	...	7.4
Sri Lanka	12,325	43	15,426	36	1981	44,247	43	4.6	19.2
Thailand[9]	55,315	42	130,965	40	1982	1,056,809	...	18.8	34.8
Turkey[10]	169,793	19	237,604	22	1982	281,929	30	7.0	2.5
Developed countries									
Australia	179,664	33	274,738	41	1982	337,953	46	8.9	3.0
Japan[11]	1,819,323	28	2,248,903	32	1982	2,391,915	33	4.3	0.9
New Zealand	39,816[7]	39	66,178	36	1982	82,666	41	13.9	3.2
USSR[12]	4,580,642	49	4,853,958	50	1982	5,315,200	...	1.2	1.3

1. Rates calculated for the periods depending on the availability of data as shown on this Table.
2. Data refer to 1976.
3. Data refer to 1971.
4. Including intermediate and pre-university courses.
5. Data refer to 1974.
6. Data refer to 1969.
7. Data refer to universities and equivalent institutions and teacher training.
8. Data refer to 1977.
9. Except for 1970, data include open university.
10. In 1982 data include open university.
11. Including correspondence courses.
12. Including evening and correspondence courses.

Table 14.1. Higher education: number of students per 100,000 inhabitants (28 countries) (1970, 1975 and Latest year available)

Countries	1970	1975	LYA	Year
Developing countries				
Afghanistan	63	87	117	1982
Bangladesh	172	201	269	1981
Bhutan	–	–	25	1980
Burma	166	180	362	1978
China	6	54	115	1982
Fiji	84	287	312	1981
India	526	746	664	1979
Indonesia	203	205	403	1982
Islamic Republic of Iran	263	464	337	1982
Lao People's Democratic Republic	14	...	38	1980
Malaysia	133	264	467	1981
Mongolia	552	683	729	1979
Nepal	152	185	269	1980
Pakistan	175	169	185	1979
Papua New Guinea	43	212	165	1982
Philippines	1,736	1,788	2,642	1981
Republic of Korea	631	842	2,392	1982
Samoa	80	165	410	1981
Singapore	665	1,005	1,253	1982
Socialist Republic of Viet Nam	...	168	213	1980
Sri Lanka	98	113	295	1981
Thailand	152	313	2,181	1982
Tonga	–	–	700	1981
Turkey	481	594	609	1982
Developed countries				
Australia	1,432	2,016	2,280	1982
Japan	1,744	2,017	2,019	1982
New Zealand	1,504	2,155	2,472	1982
USSR	1,895	1,916	1,969	1982

investment from the individual point of view. This is also confirmed by employment studies which suggest that the probability of getting a job is greater for higher education graduates than for secondary school-leavers.

The distribution of enrolments by fields of study reflects an advancing measure of diversification in line with the structural diversification. There is a notable trend, evident both in the industrialized countries and the developing countries, towards an increase in the numbers of students choosing the scientific and technology-based fields of study in including medicine. Table 15 shows the patterns of enrolment distribution by country. Education, humanities and social sciences continue to receive more than half the total enrolment. However, in most countries, the share of these fields of study in terms of percentage has either declined or increased only marginally. In the field of education the increased numbers reflect the growing trend for the training of teachers to take place at the third level rather than at the second level.

The Asian Model of Educational Development envisaged that by 1980 the enrolment distribution at the third level would have been transformed in favour of science, science-based technological and technical education, with 55 per cent of the enrolment in these fields and the remaining 45 per cent in education, arts, humanities and social sciences. This important change has not been realized in most countries. One reason lies in the fact that in some countries, private colleges and universities have a substantial role in higher education and have been instrumental in meeting individual demand. Because of cost considerations they generally develop programmes in the arts, humanities and social sciences, rather than in natural sciences, engineering or medicine.

The expansion of higher education in the developing countries is helping to bring about two important developments. First, the number of women students is increasing quite substantially. The growth rate in female enrolment is well ahead of the overall enrolment growth rate. The second development is reflected in the growing numbers of students from rural areas in higher education institutions. In several countries, the government has been pursuing policies of relocating institutions of higher education in the different areas within the country to serve the rural population and to reduce the disparities between different areas.

Table 15. Higher education: percentage distribution of students by field of study (28 countries) (1970 and latest year available)

Countries	Year	Total (= 100%)	Fields of study (%'s)					
			Education	Humanities and social sciences	Natural sciences and engineering	Medical sciences	Agriculture	Others and not specified
Developing countries								
Afghanistan	1970	7,732	24.5	29.5	21.2	15.3	9.5	–
	1982	19,652	23.6	20.7	25.2	16.7	7.9	6.0
Bangladesh	1970	117,603	1.6	74.3	19.9	2.8	1.4	–
	1981	244,091	1.2	68.1	24.6	3.7	1.6	0.8
Bhutan	1972	322	44.1	–	42.4	–	13.0	–
Burma	1972	51,811	6.2	31.9	49.5	9.9	2.5	–
	1978	121,609	2.1	38.9	55.1	2.8	1.2	–
China	1982	1,175,238	24.6	11.9	41.9	14.2	6.6	0.8
Fiji	1981	2,003	40.9	34.3	13.6	–	9.5	1.7
India	1971	3,814,852	4.8	60.2	30.3	3.1	1.0	0.7
	1979	5,345,580	3.0	69.3[1]	23.8	2.7	0.9	0.3
Indonesia	1971	251,870	21.6	44.0	18.2	8.9	4.9	2.4
	1982	616,117	26.8	47.1	15.2	3.5	6.5	0.8
Islamic Republic of Iran	1970	74,708	2.6	47.8	32.0	13.4	4.2	–
	1982	135,717	18.5	28.9	35.5	12.1	3.3	1.7
Lao People's Democratic Republic	1970	424	13.4	38.2	–	48.3	–	–
	1979	1,157	7.9	64.7	27.4	–	–	–

Table 15. Higher education: percentage distribution of students by field of study (28 countries) (1970 and latest year available) (cont'd)

Countries	Year	Total (= 100 %)	Fields of study (%'s)					
			Education	Humanities and social sciences	Natural sciences and engineering	Medical sciences	Agriculture	Others and not specified
Developing countries (cont'd)								
Malaysia	1970	14,459	6.0	50.0	30.7	4.4	7.8	1.1
	1981	67,368	19.7	29.9	34.2	3.4	3.6	9.3
Mongolia	1979	11,826	10.2	14.6	28.9	14.2	13.3	18.9
Nepal	1969	17,025	1.1	83.9	14.9	–	–	–
	1980	38,450	7.3	71.4	14.4	3.4	3.4	–
Pakistan	1970	114,980	3.4	53.5	20.9	4.8	7.4	10.3
	1979	156,558	3.6	44.9	26.8	15.6	3.9	5.1
Papua New Guinea	1972	5,307	36.3	27.9	10.1	21.2	4.0	0.4
	1982	3,458[2]	19.6	24.4	34.6	5.2	4.7	11.4
Philippines	1971	688,259	14.8	55.9	14.0	9.7	1.8	3.8
	1981	1,335,889	8.2	39.3	33.8	9.4	4.1	5.2
Republic of Korea	1970	201,436	13.9	34.9	33.2	9.6	8.5	–
	1982	954,066	11.8	36.1	37.8	6.5	5.9	1.9
Samoa	1970	114	–	60.5	–	–	39.5	–
	1981	644	8.4	69.1	–	–	22.5	–
Singapore	1970	13,771	15.3	33.2	44.5	6.1	–	0.9
	1982	30,966	14.8	21.1	57.4	3.6	–	3.2
Socialist Republic of Viet Nam	1975	80,323	25.6	18.1	35.4	10.8	10.0	–
	1980	114,701	36.9	19.0	24.7	10.0	9.4	–

Table 15. Higher education: percentage distribution of students by field of study (28 countries) (1970 and latest year available) (cont'd)

Countries	Year	Total (= 100 %)	Fields of study (%'s)					
			Education	Humanities and social sciences	Natural sciences and engineering	Medical sciences	Agriculture	Others and not specified
Developing countries (cont'd)								
Sri Lanka	1970	12,325	← - - -	71.5	15.1	11.5	2.0	–
	1981	14,247	18.5	43.6	28.5	4.7	1.9	2.9
Thailand	1970	55,315	24.7	40.6	13.6	11.5	6.6	3.0
	1977	216,876	18.0	65.9	9.5	4.5	2.1	–
Tonga	1981	693	29.1	50.6	6.2	14.0	–	–
Turkey	1970	169,793	5.5	45.3	33.4	13.0	2.8	–
	1982	281,929	13.4	46.4	27.1	10.3	2.8	0.0
Developed countries								
Australia	1970	180,918[3]	18.0	44.3	25.9	7.1	2.7	2.1
	1982	337,953	15.2	50.5	23.3	7.1	2.7	1.3
Japan	1970	1,819,323	9.8	58.8	20.9	3.5	3.1	4.0
	1982	2,391,915	9.9	55.1	19.2	5.9	2.6	7.4
New Zealand[3]	1970	41,002	22.7	46.1	21.2	3.2	5.0	1.8
	1982	84,251	8.3	47.6	28.6	6.1	5.7	3.7
USSR[4]	1975	4,854,000	29.2	8.2	45.9	7.2	9.5	–
	1982	5,315,200	28.8	8.2	45.3	7.3	10.4	–

1. Including part of students from mathematics and computer science.
2. Data refer to universities only.
3. Including multiple counting of students enrolled in more than one field of study.
4. "Medical sciences" include physical culture and sport.

Resources for education

Teaching personnel. The expansion of enrolments in Asia and the Pacific was matched by a commensurate expansion of the teaching force. In the period 1975-1982, the rate of increase at the first level was 1.8 per cent, at the second level 4.4 per cent, and at the third level 4.8 per cent, with an overall average of 2.9 per cent. In absolute numbers, the teaching force in the region rose from 18.6 million in 1975 to 22.2 million in 1982, with an increase of 1.7 million at the primary level, 1.6 million at the secondary level and 0.4 million in higher education (see Table 16).

In some countries, as earlier noted, the downward trend in fertility rates has already affected enrolments at the primary level. The supply of primary teachers in these countries is being reduced, and the surplus teachers are being retrained for other levels of education. This trend may grow as the population planning polities in certain countries begin to take effect.

Table 16. Teaching staff by level of education: Asia and the Pacific region (1970-1982)

		Total teaching staff (in millions)			Pupil/teacher ratios			% Female teachers	
	Year	1st	2nd	3rd	1st	2nd	3rd	1st	2nd
Asia and Pacific region	1970	8.4	4.9	0.8	32	19	14	43	40
(31 countries)	1975	10.8	6.7	1.1	30	19	14	41	38
	1980	11.8	8.3	1.4	30	18	14	42	35
	1982	12.5	8.2	1.5	28	18	14	40	35
Developed	1970	2.0	2.0	0.4	19	15	15	67	59
(4 countries)	1975	1.8	2.2	0.5	19	15	14	67	59
	1980	1.9	2.0	0.6	19	15	13	67	57
	1982	1.9	2.0	0.6	19	15	13	67	57
Developing	1970	6.4	2.9	0.4	35	22	12	35	27
(27 countries)	1975	9.0	4.5	0.6	33	21	13	36	28
	1980	9.9	6.2	0.8	32	19	14	37	28
	1982	10.6	6.2	0.9	30	19	14	36	29

In the region as a whole, pupil/teacher ratios at the primary level increased slightly between 1970 and 1980, while the ratios for secondary education generally decreased, indicating the transfer of resources from the primary to the post-primary levels. Within these

averages, the variations in the countries are wide and also quite significant (see Table 17).

Table 17. Pupil-teacher ratios in primary and secondary education (27 countries) (1970, 1975 and 1980)

Country	Primary			Secondary		
	1970	1975	1980	1970	1975	1980
Developing countries						
Afghanistan	41	37	32	23	17	18
Bangladesh	*42	*56	44	*25	*24	21
Bhutan	22	*26	*27	*16	*18	*13
Burma	47	52	54[1]	32	37	30[1]
China	33	29	27	22	21	18
Fiji	26	25	24	24	*21	26
India	41	42	*43	21	*20	*20
Indonesia	29	29	32	13	*15	15
Islamic Republic of Iran	32	29	20[2]	34	27	19
Lao People's Dem. Rep.	36	27	30	17	*21	20
Malaysia	31	32	*32	26	*27	25
Mongolia	30	*31	*32	*20	*24	*23
Nepal	22	29	38	*21	28	31
Pakistan	41	40	*48	19	18	*16
Papua New Guinea	30	32	*31	*19	20	22
Philippines	29	29	*31	33	31	34
Republic of Korea	57	52	48	37	37	38
Samoa	28	*27	*23	22	*22	*22
Singapore	30	30	31	20	23	19
Socialist Rep. of Viet Nam	...	36	39	...	26	*25
Sri Lanka	*30	*30	*32	*25	*21	*21
Thailand	35	28	*23	*16	*21	*19
Tonga	27	28	*24	24	*21	*21
Turkey	38	32	27	28	*22	*22
Developed countries						
Australia	*28	*22	*21	*17	15	13
Japan	26	26	*25	18	17	*18
New Zealand	24	*23	20	*25	*22	*21

1. Data refer to 1977. 2. Data refer to 1982. * Provisional or estimated data.

At the primary level, an increase in the pupil/teacher ratio is, in the experience of the countries, an essential element in the expansion of education provision. In Table 17, it will be seen that the countries which have successfully achieved high enrolment ratios at the primary level have in the expansionary period resorted to higher pupil/teacher ratios. The downward adjustment of the pupil/teacher ratios is now better facilitated by the downward trend in the fertility rates.

There has been a steady level in the percentage of women teachers in the teaching force. With the increasing enrolment of girls at the second and higher levels, the proportion of women teachers in the teaching force should be expected to rise in the next few years. The general trends in the demand for and supply of teachers show no shortages of general teachers at the first or the second levels except in the island countries and LDCs. There are, however, shortages at the second level for mathematics/science and technical subjects.

In several countries the training of teachers for the first level of education is now taking place at the post-secondary level, in junior colleges or four-year teacher training colleges. The enrolment in teacher training institutions at the second level is therefore on the decline and this trend is likely to continue in the future.

In most countries the number of teachers who are professionally untrained has decreased appreciably. New entrants to the teaching force are professionally qualified, but exceptions occur in countries where educational services have to be carried into remote areas and provided to special population groups.

Profound changes in teachers' tasks and roles and working conditions are taking place which affect their status and initial and continuing training. In all countries there is urgent emphasis on qualitative improvement of education; new subject areas are being incorporated into the curricula; new assessment procedures have become necessary; the schools are assuming new social responsibilities in the developing countries involving relationships with the local communities. In the context of these developments, the tasks of the teachers tend to be diversified, calling for effective, continuing training programmes.

Most of the countries of the region in the last few decades have established training institutions which meet the demand for teachers created by expanding enrolments. However, some of the island countries and land-locked countries do not yet have fully developed training institutions and are dependent, especially at post-primary

and teacher education levels, on external supply or assistance. Their training capacities need support and strengthening.

Recent developments in personnel training policies arise in three areas. First, with new developments in the various disciplines and technologies, the upgrading and retraining of teachers and educators has become a matter of much urgency, so in-service education is given considerable attention in national plans. Secondly, as education systems have become more 'complex', calling for the skills and knowledge of a wide range of experts, their preparation and training now make demands on the training institutions for which they are not equipped. The third area lies in higher education, which traditionally has had no 'staff training'. Increasingly, the need is being felt for appropriate staff development at this level.

Financial resources for education. Educational financing comprises outlays from public revenues as well as expenditures by the private sector and parents and contributions by local communities and individuals. Any analysis of educational expenditure and financing should take all these elements into account, but for lack of data, this is not possible. Public expenditure on education is usually the most readily documented, and because it is the dominant element, it determines in important ways the scope and direction of educational development.

In the final analysis the flow of public revenues is determined by the capacity of the national economy and its growth performance. Educational financing is not amenable to short-term changes in inputs and directions and as such, short-term buoyancies in the economy tend not to have any effect on it. Thus it is the longer term growth performance that sets the profile of educational financing.

The decade of the 1970s was a difficult period for most economies the world over. The growth performance of several developing economies in the Asia and Pacific region was quite commendable considering the severe strains created by oil prices, world recessionary trends and inflation. Table 18 presents the annual average growth rates for a group of selected developing countries (countries arranged by geographical location). This broader picture of the national economies may serve as a backdrop to the profiles of educational financing that follow.

Table 18. Annual average economic growth rates: Selected countries of Asia and the Pacific [1]

Country Growth rate	1975-1979	1980	1981	1982	1983
Burma	5.6	7.9	6.4	6.0	5.6
India	4.0	7.9	5.2	1.8	8.0
Indonesia	10.2	11.0	9.4	1.1	5.2
Malaysia	7.2	7.8	7.1	5.6	5.9
Pakistan	4.6	7.3	6.5	6.6	6.0
Philippines	6.6	4.9	3.8	3.0	1.0
Republic of Korea	9.7	3.0	6.9	5.5	9.3
Sri Lanka	4.9	5.8	5.8	5.1	4.9
Thailand	7.8	5.8	6.3	4.1	5.8
Fiji	4.2	−1.7	6.0	−1.1	−4.4
Papua New Guinea	0.8	−0.1	0.4	1.6	---

1. Source: ***Economic and Social Survey of Asia and the Pacific 1984;*** (United Nations)

Table 19 shows the public expenditure on education as a percentage of the Gross National Product. It would appear that the developing countries in the region have not generally allocated to education a share of Gross Domestic Product that would have been warranted by the growth performance of their economies. There are a few exceptions to this generalization but a general impression of ***under investment*** in education as borne out by the data is difficult to resist.

World-wide public expenditure on education at current market prices increased in the period 1975-1980 at an average annual rate of 13 per cent, and in the developing countries as a group, at the rate of 16.5 per cent. In Asia and the Pacific,[1] the average annual increase in public expenditure on education was 13.5 per cent, well below that of the developing countries world-wide.

1. The regional aggregates in this section do not include Bhutan, China, Democratic Kampuchea, Democratic People's Republic of Korea, Lao People's Democratic Republic, Mongolia and the Socialist Republic of Viet Nam, for want of data.

Table 19. Total public expenditure on education as a percentage of the Gross National Product (GNP) (24 countries)

Country	1970	1975	1976	1977	1978	1979	1980	1981	1982
Developing countries									
Afghanistan	1.1	1.3	1.5	...	1.7	1.9	2.0	...	...
Bangladesh [1]	...	1.1	...	...	1.7	1.5	1.7	1.7	...
Burma	3.1	1.7	1.6	1.6	...	...	...	...	...
Fiji	4.2	4.7	5.2	5.8	6.1	5.3	5.1	5.8	...
India	2.8	2.8	3.0	3.1	3.2	3.2	2.9	3.0	...
Indonesia	2.8	3.0	...	...	...	1.6	1.9	2.2	...
Islamic Rep. of Iran	2.9	...	5.7	...	...	...	...	...	...
Malaysia	4.4	6.3	...	...	...	5.7	6.3	7.0	7.6
Maldives	2.3	0.7	0.6	...	0.6	...	...	...	...
Nepal	0.6	1.5	1.5	1.6	1.6	1.6	1.8	1.9	2.5
Pakistan	1.7	2.2	2.1	2.1	2.1	2.0	1.8	1.9	...
Papua New Guinea	4.5	...	7.7	...	6.4	4.7	...	...	...
Philippines	2.6	1.9	1.7	1.7	2.2	1.9	1.6	1.9	2.0
Republic of Korea	3.6	2.2	3.0	2.7	2.7	3.4	4.0	3.5	4.3
Samoa [2]	7.3	5.9	6.2	...	...	...	...	...	...
Singapore	3.1	2.9	2.7	2.5	2.5	2.7	3.0	3.7	4.5
Sri Lanka	4.0	2.8	2.7	2.4	2.5	3.0	3.1	3.0	...
Thailand	3.5	3.6	3.9	3.8	3.5	3.2	3.3	3.7	3.9
Tonga	...	2.8	6.7	4.6	...	...	3.2	3.4	...
Turkey	2.9	...	...	5.4	3.6	...	2.7	2.9	2.9
Developed countries									
Australia	4.2	6.2	6.3	6.5	6.1	5.9	5.9	5.8	...
Japan	3.9	5.5	5.5	5.6	5.8	5.8	5.9	6.0	...
New Zealand	4.6	5.6	5.2	5.5	5.5	5.0	5.5	5.3	...
USSR [3]	6.8	7.6	7.5	7.4	7.3	7.3	7.2	7.0	6.7

1. From 1978 onwards expenditure of the Ministry of Education only.
2. Refers to current expenditure only.
3. As percentage of the net material product.

92

Since public expenditure on education derives directly from the national budget, its share of the total national budget is another significant indicator of the resource allocations for educational development. Table 20 covering 17 developing countries and four industrialized countries reveals the state of financial support to education. Of the developing countries, educational expenditure in 1981-1982 in seven countries is less than 10 per cent of total government expenditure, in two it is between 11-13 per cent and only in two countries is it above 15 per cent. In the period around 1970-1982, as many as 12 developing countries (out of 17 covered in the Table) had a ***declining*** trend in the proportion of educational expenditure in total government budget, two maintained a stable level (Pakistan, Singapore) and only three (Republic of Korea, Papua New Guinea, Thailand) had a rising curve of educational share. It would appear that many countries in the Asia and Pacific region are spending less on education from public revenues than most countries in other developing regions of the world. Indeed, not only is the educational investment comparatively less, the per pupil expenditure has actually declined over time.

Table 20. Total public expenditure on education as a percentage of total government expenditure (21 countries)

Country	1970	1975	1979	1980	1981	1982
Developing countries						
Afghanistan	...	...	14.3	12.7	8.8	...
Bangladesh[1]	...	13.6	7.0	8.2	8.6	...
Burma	17.9	15.3	...	...	...	...
Fiji	15.6	*19.5	...	...	11.3	...
India	10.7	8.6	10.4	10.0	9.6	...
Indonesia	...	13.1	9.1	8.9	9.3	...
Islamic Republic of Iran	9.6	...	...	15.7	13.1	...
Malaysia	17.7	19.3	19.1	16.4	...	...
Nepal	6.7	11.5	8.3	...	...	...
Pakistan	4.2	5.2	4.6	5.0	5.1	...
Papua New Guinea	13.2	...	14.2	...	...	...
Philippines	24.4	11.4	11.9	10.3	...	...
Republic of Korea	21.4	13.9	18.8	23.7	18.7	21.5
Singapore	11.7	8.6	8.1	7.3	8.5	9.6
Sri Lanka	13.6	10.1	8.0	8.8	8.7	...
Thailand	17.3	21.0	18.8	20.6	20.3	20.3
Turkey	13.7	...	...	10.5	...	...
Developed countries						
Australia	13.3	14.8	15.0	14.8	14.5	...
Japan	20.4	22.4	20.1	19.6	19.4	...
New Zealand	...	17.1	13.5	14.5	...	...
USSR	12.8	12.9	11.6	11.2	10.9	10.3

1. From 1979 onwards, expenditure of the Ministry of Education only.

Table 21 shows the distribution of current expenditure by level of education. In relation to enrolments, a very substantial proportion of the resources are allocated to the second and third levels of education. The allocation to the first level of education varies over a considerable range, from around 30 per cent to 60 per cent. Generally, countries with low enrolment ratios in primary education also have a relatively low level of resource allocation to primary education. On the other hand, countries which have either achieved universal primary education or are on the threshold of it (i.e. enrolment ratio of 70 per cent and above) have a higher allocation rate for the first level. Similarly, countries with longer primary cycles must allocate relatively more resources to this level. Furthermore, in countries where second- and third-level education are financed to a large extent by private sources, public funding is concentrated at the first level.

In several countries, private secondary schools and colleges have a very significant role in providing education at the second and the third levels. Expenditure on such schools which do not receive any grant or tax concessions is additional to the provision of public expenditure, so the resources being allocated to second and third levels of education, in comparison with those available to the first level, would appear to be even higher. It should be noted that since students at the second and the third levels are generally from higher income social groups, the allocation of increasing amounts of public funds to these levels of education in some countries has the effect of subsidizing the education of those who are better off at the cost of first-level education, which reaches out to the mass of the population, including disadvantaged groups.

The salaries of teachers acount for a major share of current expenditure at the first level. In most of the developing countries, as much as 85-95 per cent is spent on teachers' salaries, leaving little to meet other expenses such as building maintenance, textbooks, or other learning aids. In the last few years, the amount spent on non-salary items seems to have been eroded by inflationary pressures, particularly in the lower income countries. Any improvement in the situation of primary schools would need to be reflected in the non-salary items also. In some countries, such as Malaysia, the Philippines, Republic of Korea, and Thailand, special measures have been taken to increase the provision of learning aids and textbooks to the primary schools.

Table 21. Percentage distribution of current public expenditure by level of education (23 countries) (latest year available)

Country	Year	First level (%)	Second level (%)	Third level (%)	Other (%)	Not distributed (%)
Developing countries						
Afghanistan	1982	43.2	22.0	19.3	4.8	9.0
Bangladesh [1]	1981	44.2	29.4	23.4	0.1	2.9
Bhutan	1978	22.5	55.9	9.2	–	10.9
Burma	1977	← 87.1 →		10.6	–	2.3
Fiji	1981	53.0	45.1	1.9	–	–
India	1980	36.9	24.2	13.5	3.0	22.4
Islamic Rep. of Iran	1981	40.6	36.8	6.8	2.1	12.1
Malaysia	1982	33.6	34.1	14.1	0.1	18.1
Nepal [2]	1982	← 48.6 →		44.2	3.1	4.1
Pakistan	1981	38.9	32.6	19.7	0.0	8.8
Papua New Guinea	1976	33.1	23.8	35.7	0.8	6.6
Philippines	1982	61.0	12.1	22.1	–	4.8
Rep. of Korea	1981	61.6	17.3	10.3	10.7	–
Samoa	1978	60.6	24.6	–	1.6	13.2
Singapore	1982	34.3	34.4	26.4	1.7	3.2
Sri Lanka	1978	← 86.1 →		8.7	0.1	5.1
Thailand	1981	55.1	30.6	11.0	1.8	1.3
Tonga	1981	58.3	22.8	12.1	–	6.8
Turkey	1982	36.0	30.4	25.8	4.6	3.2
Developed countries						
Australia	1981	← 67.9 →		21.6	3.1	5.7
Japan	1981	37.9	34.6	11.0	7.0	8.2
New Zealand	1981	36.5	31.4	23.1	5.0	2.5
USSR [3]	1982	33.7	16.0	13.5	12.6	–

1. For 1981, expenditure of the Ministry of Education only.
2. Refers to 'regular' and 'development' expenditure.
3. General secondary education is included with first level, thus total second level refers to technical and vocational education only. Pre-primary education accounts for 24.2 per cent of the total public expenditure.

Unit educational costs in many developing countries of the Asia and Pacific region are the lowest in the world, and their reduction is hardly a viable proposition as teachers' salaries are already quite modest. There is, however, considerable room for increasing the ***effectiveness*** and efficiency in the use of the resources in terms of better outputs, e.g. reduction of drop-out and repetition and greater learning gains. In order to move towards universalization of primary education, a rise in the pupil-teacher ratio in the coming years would seem to be unavoidable: this applies not only to the primary level but also to the higher levels of education, where the high unit costs are partly due to low pupil-teacher ratios. However, further increases in pupil-teacher ratios would call for more investment in the training and retraining of teachers, in educational supervision and in the provision of teaching/learning materials.

As education enrolments have expanded, so has the need for greater attention to school buildings and other facilities and the problems and issues surrounding them. In almost all developing countries, the stage has been reached in which it could be claimed that some kind of primary education facility is available to all villages, except in some very remote areas. This increased availability is a very significant development occurring over the past decade or so. In several countries, the absolute number of primary schools is such that new programmes for school construction are not needed. Instead, attention is being given to school location, which take into account issues such as enlarging or combining existing schools in order to ensure that they serve their communities optimally. In the period 1975-1980, the outlay devoted to school buildings and capital equipment has increased steadily, but much of the increase has been eroded by inflation, which affected the construction industry quite severely.

Of the sources of educational financing, one that ranks next only to public expenditure is the support and participation of the local community, particularly for primary education. The significance of such local support is, however, not merely financial. In an increasing number of countries, local communities are involved in the development of educational facilities in an extensive way, especially in the drive towards universalization of primary education.

The unfinished business

The preceding presentation of current trends in educational growth and development in Asia and the Pacific deals mainly with

how many pupils and how far they go on the educational ladder. Outside the lockstep of the ladder is yet another world of people whose productive labour sets the course of national development. In many countries of the region this wider population is only marginally covered by the educational endeavour. There are at least three challenging tasks for the years immediately ahead. To draw attention to these unfinished tasks may be an appropriate way to conclude the chapter on the educational situation in Asia and the Pacific.

The first task is to provide educational opportunities to all children and young people of regular school age, beginning with primary education for all. A second major task is to reduce and eventually to eliminate adult illiteracy in the region. The third task is actually a prerequisite and outcome of the previous two; the provision of educational opportunities to girls and women on the same footing as those available to boys and men.

Out-of-school children and youth. Today, more than 350 million children and youth aged between 6 and 23 years are outside the formal education system. This accounts for about 60 per cent of the total population within this age-range. As compared to the situation two decades ago, the absolute number of out-of-school children and youth grew by more than 100 million (see Table 22).

The 'out-of-school' population comprises different categories in terms of schooling. First, there are children and young people who, according to national legislation, should be in schools but are not. In most of the developing countries in the region, this is the primary education age-group, while in the industrialized countries, it extends also to 16-17 year olds. Then, there are young people beyond the compulsory school age and who are not enrolled in school. The education and training of these young people (in age-groups 12-17 and 18-23) are vitally important because of their potential contribution to national development as workers, farmers and producers. In several countries, education and training programmes outside the formal schooling system have been introduced, and the expansion of such programmes to reach this large out-of-school population is of great importance. These programmes are carried out by different ministries of the government within their respective fields of competence. Inter-ministerial coordination, however, is generally rather weak, thus hindering coherent planning and maximum impact. Symptomatic of the weakness is an almost total lack of relevant data and situation-finding studies on out-of-school youth which would be indispensable for planning decisions.

Table 22. Out-of-school children and youth in the developing countries of Asia and the Pacific (1960-1982)[1]

Age-group	Year				Variation 1970-1982 (millions)
	1960	1970	1980	1982	
Age-group 6-11					
Population	133	182	221	227	+45
Number out of school	68	74	72	67	−7
% out of school	51.0	40.5	32.8	29.4	
Age-group 12-17					
Population	109	149	195	203	+54
Number out of school	88	107	129	131	+24
% out of school	81.1	71.9	65.8	64.7	
Age-group 18-23					
Population	96	117	165	175	+58
Number out of school	93	110	151	158	+48
% out of school	96.2	93.5	91.3	90.4	
Total (age-group 6-23)					
Population	338	448	581	605	+157
Number out of school	249	291	352	356	+65
% out of school	73.7	65.0	60.6	58.8	

1. Not including the People's Republic of China and the Democratic People's Republic of Korea.

Education of the masses – literacy, the key

In the developing Asia region, illiteracy is the single most important problem at par with the problem of providing education for all children. Indeed the two are intertwined; a literate adult population makes the education of children possible, which in turn helps to stem illiteracy at the source. It is significant that no country with a high illiteracy rate has been able to achieve universal primary education.

Numerous studies have shown that literacy is related to productivity, to better health and nutrition awareness, and it enhances responsiveness to public social services and innovations.

Some 618 million illiterate men and women, aged 15 years and above, live in developing Asia and the Pacific. This represents about three-quarters of the total illiterate adult population of the world (see Table 23).

Table 23. Number of illiterates and literacy rates in the world and the developing regions for the population aged 15 years and over (1970 and 1985)

Region	No. of illiterates (in millions)			Literacy rate (%)	
	1970	1985	Variation 1970-1985	1970	1985
World	760	857	+ 97	67.1	73.2
Developing Asia and the Pacific	537	618	+ 81	53.6	63.7
Africa	140	162	+ 22	28.9	46.0
Latin America and the Caribbean	44	44		72.7	82.7

While the aggregate literacy rate of the developing countries has risen over the last 15 years, the ***number*** of illiterates (aged 15 and above) has also increased by about 80 million. Clearly, the rate at which the adult population is gaining literacy is outstripped by the rate of population growth while primary school drop-outs add to the numbers of illiterates.

Regional aggregates, however, disguise the very large differences among the countries and the progress that several of them have achieved. Apart from the four industrialized countries, which have universal literacy, nine developing countries in the region have already achieved 80 per cent or higher literacy rates, five countries are between 50 per cent and 80 per cent level, and seven countries are below 50 per cent.[1] Based on available data and estimates, Table 24 illustrates the situation of illiteracy in different countries.

Illiteracy is invariably associated with deprivation and socio-economic underdevelopment. Countries with over half their adult population illiterate also stand at the low end of other scales of socio-economic indicators. Typically, with very few exceptions, these countries have:

1. The above does not, for lack of detailed data, include some countries which are otherwise known to have already achieved a high level of literacy, such as the People's Democratic Republic of Korea, Samoa and Tonga.

Table 24. Illiteracy in the countries of Asia and the Pacific (21 countries) (latest census or survey data available since 1970)

Country	Year	Age group	Illiterate population (thousands)			Rate of illiteracy (%)		
			MF	M	F	MF	M	F
Afghanistan	1980	15+	5,742	2,488	3,254	80.0	66.8	94.2
Bangladesh	1981	15+	...	...	...	70.8	60.3	82.0
China	1982	12+	237,925	73,269	164,656	31.9	19.2	45.3
Fiji	1976	15+	66	24	42	21.0	16.0	26.0
India[1]	1971	15+	209,430	86,346	123,084	65.9	52.3	80.6
Indonesia	1980	15+	28,325	9,491	18,834	32.7	22.5	42.3
Islamic Rep. of Iran	1976	15+	11,733	4,875	6,858	63.5	51.8	75.6
Malaysia	1970	10+	2,972	1,094	1,877	42.0	30.9	53.2
Maldives	1977	15+	14	7	6	17.6	17.5	17.7
Nepal	1981	15+	6,998	3,053	3,945	79.4	68.3	90.8
Pakistan	1981	15+	33,597	15,512	18,085	73.8	64.0	84.8
Papua New Guinea	1971	10+	1,107	513	594	67.9	60.7	75.6
Philippines	1980	15+	4,627	2,200	2,426	16.7	16.1	17.2
Rep. of Korea	1970	15+	2,264	550	1,714	12.4	5.6	19.0
Samoa	1971	15+	1.6	0.8	0.8	2.2	2.2	2.1
Singapore	1980	15+	301	75	226	17.1	7.6	26.0
Socialist Rep. of Viet Nam	1979	15+	4,847	1,340	3,506	16.0	9.5	21.7
Sri Lanka	1981	15+	1,336	452	884	13.9	9.2	18.8
Thailand	1980	15+	3,297	1,050	2,247	12.0	7.7	16.0
Tonga	1976	15+	0.2	0.1	0.1	0.4	0.3	0.5
Turkey	1980	11+	9,901	2,749	7,152	31.2	16.8	46.6

1. Preliminary figures from the 1981 census in India indicate an illiteracy rate of 63.8 per cent for the total population (of all ages).

Note: Due to rounding, figures of illiterates by sex do not always add up exactly to the total.

- infant mortality rates of over 100 per 1,000 live births;
- one-half to two-thirds of their children undernourished;
- a life expectancy at birth under 50 years;
- widespread endemic and communicable diseases;
- one-third to one-half of their population without access to clean drinking water;
- half or more of their people with a household income below the poverty line or the minimum needed for meeting essential needs.

A full analysis of the literacy situation is handicapped by lack of data, but two distinct groups of illiterates are readily identifiable. The first group comprises illiterate adults living in the rural areas. Recent estimates indicate that rural literacy rates are 10-30 percentage points lower than those for urban areas (see Table 25). In the rural areas, the incidence of illiteracy falls more heavily on the most vulnerable section of the population, namely, the rural poor, thus compounding the other social and economic disadvantages to which they are subject.

The second group comprises women. Of the estimated 618 million illiterates in the developing countries of the region, some 60 per cent are women. A reference to Table 23 will show that as long as there is illiteracy, there will be more of it among women than among men. The difference is resolved when illiteracy is completely liquidated. The rate of women's literacy determines quite decisively the overall level of literacy in a country; a high rate of literacy is a positive influence on socio-economic development generally and on family life, children's education, health and nutrition, in particular.

Education of girls and women. From the cultural, economic and social viewpoints, the education of girls and women in one of the best investments that a country can make in its future, because it enables the country to draw more fully on all its human resources for national development. Educated girls and women are able to make a better contribution, whether inside or outside the paid labour force.

Viewed in the aggregate, the enrolment of girls in formal schooling has shown encouraging progress in recent years. Between 1970 and 1982, the number of girls enrolled at the first level rose from 110 million to 153 million and at the second level from 37 million to 59 million. There was a substantial increase in the number of

young women enrolled at the third level too, from 4.1 million in 1970 to 7.5 million in 1982. However, behind these aggregate figures is a wide range of disparity.

Table 25. Illiteracy in urban and rural areas (14 countries) (latest census or survey data available since 1970)

			Rate of Illiteracy						
			Urban Areas			Rural Areas			Diff.U-R
			MF	M	F	MF	M	F	MF
Country	Year	Age-group	(%)	(%)	(%)	(%)	(%)	(%)	(% points)
Afghanistan	1980	15+	60.9	45.5	78.5	83.5	70.9	96.9	22.6
Bangladesh	1981	15+	51.9	42.0	65.9	74.6	64.6	84.7	22.7
China	1982	12+	16.4	8.9	24.6	34.8	21.1	49.1	18.4
India	1971	15+	39.6	27.6	54.5	72.9	59.4	87.0	33.3
Indonesia	1980	15+	16.5	8.8	24.0	37.6	26.8	47.7	21.1
Islamic Rep. of Iran	1976	15+	44.0	32.7	56.5	83.0	72.3	93.4	39.0
Malaysia	1970	10+	32.0	21.8	42.3	46.1	34.6	57.6	14.1
Nepal	1981	15+	52.6	40.3	67.0	81.3	70.4	92.4	28.7
Pakistan	1981	15+	53.1	43.1	65.3	82.6	73.4	92.7	29.5
Philippines	1980	15+	6.9	6.0	7.7	23.1	22.4	23.9	16.2
Republic of Korea	1970	15+	5.7	2.0	9.3	17.8	8.5	26.6	12.1
Samoa	1971	15+	1.3	1.3	1.2	2.5	2.5	2.4	1.2
Sri Lanka	1981	15+	6.7	4.4	9.2	16.0	10.7	21.4	9.3
Thailand	1970	15+	12.3	6.3	18.1	22.9	13.9	31.6	10.6

Table 26 shows the gross enrolment ratios for girls in 23 countries of the region at the first and second levels. At the first level, the ratios range from 10 per cent to more than 100 per cent (due to under- and over-age children enrolled); only two countries have a ratio below 30 per cent, whereas 11 developing countries and the four developed countries have attained or approached 100 per cent gross enrolment of girls. At the second level, 11 countries have a ratio of less than 30 per cent, but there has been considerable improvement since 1970: only five countries now have a ratio below 20 per cent compared to ten in 1970, and six developing countries now have a 50 per cent or more gross enrolment ratio of girls, compared to only one country in 1970.

Table 26. Gross enrolment ratios for girls in primary and secondary education (23 countries) (1970 and 1982)

Country	Primary			Secondary		
	1970	1982	Variation 1970-1982 (in % pts.)	1970	1982	Variation 1970-1982 (in % pts.)
Developing countries						
Afghanistan	7	14	+ 7	2	5	+ 3
Bangladesh	34	49	+15	6	7	+ 1
Bhutan	1	10	+ 9	–	1	+ 1
Burma	83	84	+ 1	17	21	+ 4
India	56	70	+14	15	21	+ 6
Indonesia	71	109	+38	11	27	+16
Islamic Rep. of Iran	53	81	+28	21	33	+12
Lao People's Dem. Rep.	48	93	+45	2	21	+19
Malaysia	84	91	+ 7	28	50	+22
Mongolia	116	108	– 8	69	90	+21
Nepal	8	43	+35	3	9	+ 6
Pakistan	22	33	+11	5	8	+ 3
Philippines	107	107	–	45	67	+22
Republic of Korea	103	103	–	33	82	+49
Singapore	102	102	–	45	65	+20
Socialist Rep. of Viet Nam[1]	114	106	– 8	39	48	+ 9
Sri Lanka	94	101	+ 7	48	55	+ 7
Thailand	87	93	+ 6	16	29	+13
Turkey	93	95	+ 2	15	28	+13
Developed countries						
Australia	115	108	– 7	80	92	+12
Japan	99	100	+ 1	86	94	+ 8
New Zealand	109	104	– 5	76	82	+ 6
USSR	103	105	+ 2	86	96	+10

1. Data under 1970 refer to 1975.

It is evident that for countries with a total enrolment ratio (i.e. boys and girls) below 80 per cent at the first level, the critical problem in achieving universal primary education will be to increase the enrolment of girls.

Table 27 sets out some indicative figures of the disparities in educational provision between boys and girls at different levels of education and the progress achieved in different geographical sub-regions of Asia in order to realize equality. Although the situation of girls has been improving, the Table suggests that further progress in South Asian countries will require the determined and consistent action of their respective governments.

Table 27. Female enrolment as per cent of total enrolment at each level of education and by sub-regions (1960-1982)

Region / Sub-region	Level of education	% Female			% Female increase in total increase (2)	Index 1982 (1960 = 100)	
		1960	1970	1982	1960-1982	M	F
Asia and Pacific region (31 countries)	1st	40	41	43	47	162	185
	2nd	39	39	40	41	282	294
	3rd	32	36	36	38	365	445
	Total	39	41	42	44	191	211
Developed countries (4 countries)	1st	50	48	49	(–53)	97	96
	2nd	49	49	49	50	154	156
	3rd	37	43	45	50	216	293
	Total	48	49	48	49	123	124
Developing countries (27 countries)	1st	38	40	43	48	174	211
	2nd	32	34	38	40	341	432
	3rd	23	27	31	32	574	842
	Total	37	39	41	44	207	244
East Asia	1st	39	40	44	54	137	168
	2nd	40	38	40	40	328	329
	3rd	21	25	27	27	999	1363
	Total	39	40	43	47	166	191
South Asia	1st	32	36	38	42	223	288
	2nd	23	28	32	35	305	483
	3rd	17	21	26	28	496	855
	Total	30	34	36	39	295	327
Southeast Asia	1st	44	47	47	50	228	258
	2nd	35	41	46	48	572	908
	3rd	41	43	44	45	644	734
	Total	43	45	47	49	276	318

Many developing countries are now employing more women teachers, especially at the first and second levels of education. The employment of women teachers helps to improve the enrolment of girls, and has also a much wider effect. It has been found that women seen in paid employment stimulate the general trend in favour of girls' education, their retention in school and their employment. No doubt this phenomenon will continue to contribute significantly to further increases in the enrolment of girls in the formal system, especially in countries with relatively low female enrolments.

Girls' education in remote areas has been promoted in a few countries by recruiting local girls to be teachers and providing them with second-level education and teacher training. This has made a substantial contribution to the enhancement of the education of girls in these areas, where it would have been impossible otherwise to raise the enrolment of girls in school, given the prevailing social, economic and cultural conditions. The establisment of schools exclusively for girls, with women teachers, also has had a positive effect on enrolments, especially in second-level education in areas where separation of sexes is a strong social practice.

How successfully these principal tasks will be undertaken to make ***education for all*** a reality, will depend on the educational goals pursued by the countries of the region and on the effective design and implementation of education policies. Fortunately, most countries have gained considerable experience in planning the development of their education systems and will certainly draw on this experience in meeting the challenges of developing education in ways which are equitable socially and individually fulfilling.

Chapter Five

AN AGENDA OF PROBLEMS

In a region which has such wide diversities as are to be found in Asia and the Pacific, it is even more difficult to develop generalizations about educational problems that will hold good across the board than it is to make general analyses of growth patterns. This caveat has to be borne in mind in the identification of the problems at regional level.

One feature is common in all the education systems: they have in the last three decades expanded on an unprecedented scale. Young people have many more opportunities for education than they had in the past. Yet the problems are also on a massive scale, both quantitatively and qualitatively. The educational reforms initiated in many countries of the region attest to the persistence of these problems.

Many of the problems stem from the disequilibria that are caused by, or are inseparable from, the development process in education. Every change introduced in an education system (for example, by expansion) creates an imbalance in relation to the other existing factors in the situation; adjustments are made till the change element becomes a part of the system, having raised it to a higher level of goal performance. New changes then become necessary.

Thus the problems of disequilibria are typically expressions of polarities: equity – quality; expansion – consolidation; or social demand – resource constraint. These problems would show that the countries are now faced with the complex task of dealing simultaneously with rapid educational expansion and the reshaping and revitalization of their education systems. This complex task is to be carried out in a context in which the demands on education by society are increasing even while the resource constraints are becoming more severe. One of the basic problems may well lie in the capacity of the education systems to respond effectively and with vision to this challenge.

Inequalities and educational deprivation

The right to education being a human right, equal access to education and equal educational opportunities are prerequisite to the exercise and enjoyment of this human right. Equal access to education is an essential condition for equal educational opportunity, but is not identical with it. Equal access by itself does not necessarily ensure that the conditions of learning provide equal chances of success to all. The proposition has proved wrong that when equal access has been provided, equal opportunity has been ensured. The concept of equal educational opportunity focuses on educational effects or outcomes and their equalization.

In many countries of the region the national constitutions embody provisions for education of all children. At the international level, many major international organizations have discussed the question of access to education. The governing organs of UNESCO in particular have adopted a series of important decisions aimed at eliminating discrimination in education and ensuring educational opportunities for all.

The idea of equality of educational opportunity has been powerfully reinforced in recent years by the experiences of developing countries as they strove to break the poverty-cycle by accelerating economic growth. There is a growing concern in many developing countries reflected in their development policies, that the benefits of the relatively high economic growth rates achieved during the last decade have failed to ensure equitable distribution of benefits to large segments of the society. In consequence, the social structure has been further riven by disparities, limiting the participation of the people in the development processes.

This has important implications for educational policies and practices. Equal access to education is therefore no longer a theoretical idea only. It has the immediacy and urgency of a practical and concrete problem.

In analysing the growth and expansion of enrolment earlier (Chapter Four), attention was called to the marked disparities in the distribution of educational opportunities in three areas of 'unfinished business' – adult illiteracy, education in rural areas and girls education. The deprivation is much deeper than the figures of enrolment, disconcerting as these are even when guised as aggregates. The deprivation of education always strikes at the least-privileged social groups in society and the poor in the population below the poverty line. In

the rural population or among women or the adult illiterates, it is these vulnerable social groups who have the highest rate of illiteracy and the largest numbers of children and girls out of school and without schooling.

Is the scale of this problem being reduced with expanding enrolments? For most of the developing countries in the region the answer would appear to be, no; the available evidence suggests that while educational opportunities have increased for the disadvantaged social groups, the relative distance between them and other groups remains the same and many even have increased. Social inequalities and educational inequalities tend to go together, the former engendering the latter and being reinforced by it.

Since entry to a primary school is only the first step to educational opportunity, it is more important to note what happens after this limited step has been taken. In a large number of countries in the region, the chances of surviving the full cycle of primary education are severely limited by a heavy toll of repetition and dropping out. The vast majority of those who drop out are found among the poorest sections of society, in rural areas, and most of them are girls. For them, educational handicaps reinforce social and economic deprivation.

Inequalities in educational outcomes affect a large number of even those children who are able to stay the course, thereby further limiting educational opportunity. This apparently applies even to countries which may have attained a highly effective enrolment ratio, and have eliminated dropping out. Some countries in the region have recently conducted studies of achievement differences in primary education with particular attention on the impact of socio-economic disparities on pupil performance and achievement. These studies point to one common conclusion, that differences in school achievement are associated with the socio-economic background of the pupils. The school factors apparently have little impact on reducing these disparities in achievement, and may well be reinforcing them. There is evidence that the disadvantages have a cumulative influence. A general conclusion may well be in order, that for equal access to education, much more is required than only access to a school place.

Quality in education

There is a deepening concern in the region about the quality of education that the education systems are able to provide. The regional ministerial conferences notably the Colombo Conference

(1978) and the Bangkok Conference (1985) gave special emphasis to qualitative improvement as an essential part of educational development.

The concept of quality in education lends itself to as many, and as varying, definitions as education itself. Some see quality associated with a high degree of selectivity, with elitism. This notion is as incompatible with the nature of quality in education as it is with the social and ethical imperatives underlying the development of education in modern times. There is no conflict between equity and quality, between a policy commitment to provide education for all and the goal of raising progressively the standards and quality of performance of the education system through which education for all is to be realized.

Quality in education has many related facets. At the level of the individual learner, it is expressed in the quality of his or her learning, the knowledge, understandings and skills which are acquired both in terms of their breadth and depth and the degree in which the potential of the student is realized. This does not apply only to a small percentage of students; it is valid for all students at different stages of education. At the institutional level, quality is expressed in the high standards of performance that are set-up and in the ways in which the learners are helped to realize them. At the level of the system as a whole, quality is expressed in the policies which make possible the learning gains for the individual students and the climate of achievement and creativity in the institutions and other learning places. Qualitative standards are not fixed goals; in a quality conscious system, standards of performance rise progressively; they are moving goals.

Several countries in the region are addressing, as a matter of priority, the problem of qualitative improvement of education. In some countries, the approach is made first at the higher education level and 'centres of excellence' are being developed to serve as models and magnets of change. In a few others, the 'model' institution concept is extended to all levels of education and geographically ranges from local community areas to the national level. In several countries, qualitative improvement is sought through the improvement of the inputs, namely, curriculum, textbooks and teacher education.

The experiences in the countries highlight the need for specific policies directed to qualitative improvement and for careful defining

of the standards of educational performance the attainment of which can be monitored with a view to revision and upgrading.

Increasing efficiency in education

The problem of efficiency of education particularly as it presents itself in the developing region has three aspects. The first is 'external efficiency' which refers to how well the system has served the students when they leave it to enter the world of work – employment, living in society. The second aspect is 'internal efficiency' in terms of the achievement of educational goals with a given input of resources. The third aspect is 'qualitative efficiency' which refers to the knowledge and skills gained, the development processes released and the transformation created by the action of education on students in learning situations. This action of education is the function of the various educational factors – teachers, teaching materials (e.g. books), curriculum, school facilities (e.g. buildings). In many ways it is the third aspect of efficiency which is the ***raison d'être*** of the system and determines both external and internal efficiency.

All educational systems are predominantly labour-intensive and will continue to be so for as long as one can foresee. They engage, as pupils and teachers, a very significant share of the total skilled manpower of a country. An important criterion of efficiency is how this input of real resources is used. The education systems in most countries of the region tend to be lavish in the way they use human resources. This is not only an economic issue of ensuring satisfactory returns on investment, though the economic aspect is important. It is also profoundly a social problem, involving waste of human potential.

The internal efficiency of the education systems is quite low. Drop-out rates, percentages of 'examination failures' at every stage, and most important, measurement of learning gains by students disclose the systems at low performance mark. For example, the number of years invested by the school system to produce a successful graduate has been used as one of the criteria of internal efficiency of educational systems. Though it is a rather simple and even crude device, it reflects the effect of repetition and drop-out on the use of resources and provides a rule-of-thumb basis for determining how much of the resources are wastefully utilized. The data presented in earlier chapters show that some countries are investing nearly three times as much resources as are optimally required to produce a 'successful' school leaver.

Dropping out and repetition are statistically visible forms of inefficiency. Equally important and even more widespread is the phenomenon of 'under-achievement' among pupils who manage to survive the primary cycle. The studies made in several Asian countries show that the educational services have failed to realize and develop the full potential of a large proportion of children who enter the basic cycle of schooling.

At the second level, a broad indication about performance is provided by examination results in those systems in which the final or end-of-the-cycle examination is intended to certify 'success' or 'failure'. The proportion of 'successful' pupils varies in the countries in the range of 45 to 60 per cent. A substantial proportion of pupils have, therefore, to repeat the grade and sit the examination again the following year or drop out of education.

The students who do not complete the course at post-primary level have nevertheless acquired some competencies and to that extent educational investment in them and their own investment of time and money could be considered as not entirely wasted. The argument, however, over-simplifies. In the first place, these students leave school without any of those skills which would have helped them to integrate themselves in active life nor can they easily take up jobs which are hedged with certification requirements. Then, once they leave school they have no chance to re-enter at a later time and build on their earlier investment. Here again the requirements of educational efficiency and the need for the educational systems to have flexible structures converge.

Clearly, the search for increasing educational efficiency in the 1980s calls for urgent attention to be given to problems of drop-out, repetition, and under-achievement which jeopardize effective utilization of education's most important resource, i.e., the pupils themselves.

In a wider concept of efficiency in education, economy and effectiveness – in the sense of attaining an objective by the least costly means – are of special significance, particularly to the developing countries where the resource constraints are severe. The factors involved in economy and effectiveness include the effective duration of studies, teaching resources, utilization of buildings and equipment.

The duration of studies at various levels of education has important implications for the cost of education (because unit cost

per pupil increases at each higher grade), for social selection processes, and the flow of skills into the economy. At the first level of education, the question may be raised whether beyond a certain stage an additional year of schooling does in fact make any significant contribution to pupils' achievement of defined levels of subject content. At the secondary level as well, and even more so in specialized technical and vocational branches and higher education, the length of various studies calls for critical scrutiny. The unit cost in these areas is extremely high (relative to unit cost at the basic level and ***per capita*** national income), and with the trend towards rapidly growing enrolments at these levels, the financial burden, already heavy, will grow formidably in the years to come.

International 'demonstration effect' and 'international' equivalencies seem to have had a share in engendering the assumption that the longer the duration the higher the academic 'standards'. Moreover, levels of professional ability far in excess of immediate needs have been aimed at on the basis of standards developed elsewhere. One result of these misconceptions is to be seen in the flow of skilled manpower supply away from the middle level range of occupations and from rural areas.

Teaching resources are another component of real resources and one which is critically important in the teaching/learning process. In a narrow sense, teaching resources comprise the teacher and the instructional materials. In a broader sense, 'teaching resources' comprise many other sources of learning. Qualitative improvement of teaching/learning processes may indeed be measured by the degree to which teaching resources in the narrow sense are broadening out and incorporating the other sources of learning. Of these other sources, the home and family are nearest to the pupil but farthest from the school. Nearer the school is peer-learning. Research has shown that the influence of home and environment which is dominant in the learning capacities of children in the early years begins to give way to the influence of peer-learning in the adolescent stage. Then there are the pervasive sources of learning through cultural traditions, the community processes of production, the communication media and others.

Consideration of 'teaching resources', with reference to the costs, suggests a variety of questions; for example, pupil-teacher ratio, class size, the preparation and training of teachers, the use of instructional time, the 'mix' of teacher input and instructional materials and instructional technology.

The pupil-teacher ratio is only a statistical average, and this average has to be seen in the context of how teachers are distributed by grades and by levels. The most common pattern is for pupil-teacher ratios to lower as one goes up the educational ladder. It is open to question whether this pattern for the allocation of an important resource – the teacher – is effective in terms of the cost or instructional efficiency. It is in the beginning grades of the basic cycle rather than at the end that the children, specially those coming from disadvantaged environments, need guidance and personal attention. Again, at the third level of education, the student-teacher ratio has to be examined not only from the point of view of subject requirements, but also in the context of the learning styles of young people involving peer-learning and independent self-study.

The utilization of buildings, whatever their costs, presents perhaps the greatest opportunities for resource conservation. Many countries of the region use their schools for only part of each day, part of each week, and part of each year. The school year, moreover, is rarely related to the seasons and in consequence children in the rural areas are often torn between attending school or helping with crops and animals. There is really no reason why buildings should not be occupied the year round, using scheduling known as the 'extended school year'. This would sharply reduce the need for new construction, and in some places enable the double shift system to be abandoned. School buildings can also be used by a wide segment of the population for out-of-school programmes for youth and adults, as the experience of many countries demonstrates.

Supporting pillars for increasing educational efficiency

Efficiency is one side of the coin of which the other side is quality. In the developing countries of the region, the problems of efficiency and of quality are intertwined with institutional development issues.

i) The most crucial issue is the managerial capacity of the education systems which have grown rapidly from relatively simple to now highly complex tasks. For increasing efficiency and making qualitative changes, it would be necessary to have qualified and trained educational administrators and managers at the key levels of the system, who represent a wide range of specialities in line with the complexity of the education systems.

ii) The education systems more than other systems comprise 'institutions' and yet as the education systems expanded, the supporting structure of new institutions in new areas has not kept pace with the systems expansion. In the 1970s institution-building took place in several countries in the areas of curriculum development and science education, with highly rewarding results. A strong supporting institutional structure is needed in areas such as educational management training and adult literacy.

iii) The analytical capacities of the education systems are inadequately developed with weak data gathering and research capabilities. As a result the working of the system is poorly monitored and policy decisions tend to be ***ad hoc***. A prerequisite of increasing efficiency is the development and maintenance of an institutional capacity to plan, analyse and manage.

The use of educational technology in appropriate form is of particular significance in improving instructional efficiency. Not all the bright promises with which educational technology began have proved themselves, but there is now a growing volume of experience in the countries of the region in adapting different forms of educational technologies to their resource constraints. Increasingly, the focal points of interest are:

i) the development of low-cost technologies using indigenous materials and resources;

ii) the use of various technologies (whether it is printed word or radio or television) in combination rather than singly, and as an integral part of the instructional programme; and

iii) the forms of technologies which lend themselves to economies of scale.

The design of educational facilities has an important bearing on their costs. In most countries, design techniques rigidly reflect existing structures and contents of education. Seven years of primary education means seven classrooms. But a characteristic of education in the region is that of change in respect of duration and content. The introduction of work-oriented education coupled with a shortening or extension of particular cycles, for instance, suggests design principles flexible enough to adapt facilities to changing requirements. Similarly, considerable savings could result if classrooms were tailored to match the probable retention of students from one grade

to the next. Most countries, however, continue to provide classrooms of the same size for all grades, irrespective of the retention situation. Thus a characteristic especially of rural schools in many places is a progressive waste of space through the grades.

Techniques of school building construction are also worthy of study. If life costs of a building are estimated, it will usually be bound that a less substantial form of construction requiring more maintenance has a significantly lower initial and life cost than a more substantial building, although the latter will require maintenance less frequently. The conventional wisdom and established practices of school building construction in many countries prevent cheap construction techniques, and in so doing waste rather than save scarce resources.

Education and employment

The level and structure of employment in developing countries in the region are influenced by a multiplicity of factors such as the population growth, economic performance, the pattern of industrialization and urbanization, conditions of international markets, technological advances, changes in occupational structures, institutional arrangements and mechanisms to match manpower demand and supply, wage and incentive structures and external demand for certain categories of manpower (migrant workers).

Education and training, as a supply function, has been constantly called upon to respond to these new developments and structural changes. The causes of unemployment and underemployment, particularly unemployment among the educational youth, therefore have to be examined both in terms of absorbtive capacity of the developing countries, on the one hand, and the development of the required skill spectrum for developmental programmes through a responsive system of education and training on the other.

The demographic factors have contributed significantly to the general problem of unemployment. It was estimated that between 1970 and 1980 the number of persons of working age (15 to 64) in countries of the Asia and Pacific region rose from 1.1 billion to 1.5 billion, and it is expected to reach 1.9 billion by 1990. Providing job opportunities for increasing number of youth aged 15-24 years has become an especially significant aspect of the problem due to the demographic features. As of the late 1970s, for example, nearly 50 per cent of the unemployed in India and the Republic of Korea,

55 per cent in the Philippines and 74 per cent in Thailand were under 24 years of age.[1]

The prolonged economic recession of the early 1980s affected the social and economic performance of the countries in the region, though on the whole the region fared better than many other parts of the world. The resilience of the economies of some Asian countries may be attributed to the successful readjustment of industrial structure, expansion of manufactured exports, better performance of the agricultural sector, and the provision of overseas engineering and construction services. The 1980s are a decade of rapid technological progress which has far-reaching implications on human resources development and employment. Young people will have to be educated and trained with necessary skills to face new challenges if the problem of unemployed youth is to be relieved.

The rates of unemployment in selected Asian countries are given in Table 28.

Table 28. Rates of unemployment (selected countries) (1979-1983)

Country or area	1979	1980	1981	1982	1983
			(per cent)		
Indonesia	3.3	1.7	2.7	3.0	...
Malaysia	5.2	5.7	4.8	5.2	6.0
Pakistan	3.5	3.5	3.5	3.5	3.5
Philippines	3.5	4.3	5.2	4.4	4.1
Republic of Korea	3.8	5.2	4.3	4.4	4.1
Singapore	3.4	3.5	2.9	2.6	3.3
Sri Lanka	14.7	...	17.9	...	...
Thailand	0.9	0.9	0.9	3.6	...

Source. Asian Development Bank. ***Key indicators of developing member countries*** (Manila, 1985).

The recorded rates of unemployment appear to be relative low and show little variation over the past years. It should be noted, however, that these statistics on unemployment may understate the phenomenon since agricultural employment in the 'traditional sector' predominates.

1. World Bank. ***World Development Report 1982*** (Washington, D.C. 1982).

While recognizing that the absorbtive capacity and economic performance of the countries need to be accelerated in order to alleviate or minimize unemployment – particularly unemployment among the educated youth – the planners and educators alike directed their attention to the need for a closer match between manpower demand and supply. Manpower planning was adopted and approaches were taken to ascertain in quantifiable terms, the number of skilled workers required for different occupations which were identified in national developmental plans. The original enthusiasm for manpower planning, has abated somewhat in recent times however. The manpower forecasts have been beset with serious problems and uncertainties. Although it was clear that most developing countries had a shortage of professional and technical manpower and a surplus of unskilled labour, the requirements in terms of occupational distribution, spatial dispersion and placement possibilities could not be projected with any degree of precision. Very often sudden shifts in demand depressed some industries and created areas of expansion in others. In recent years, the external demand for migrant workers has added a new dimension to the problem.

Massive increases in the annual flow of migrant workers from Asia to all parts of the world introduced a new factor in the situation in the 1970s; it is estimated that the numbers trebled within a short period, 1974-1980. By 1980, the aggregate outflow from eight countries, namely, Bangladesh, India, Indonesia, Pakistan, the Philippines, the Republic of Korea, Sri Lanka and Thailand had reaching the million mark. The flows continued at high levels in the early 1980s but they seemed to have reached a peak in 1982, when the aggregate number went over one million workers.

The seriousness of the problem of educated unemployment or unemployment among educated youth had long been recognized in countries like Bangladesh, India, Pakistan, the Philippines, Sri Lanka and Thailand. Studies on causes of educated unemployment in some of these countries have shown the influence of a number of variables such as economic stagnation; rapid population growth and labour force; investment policy biased towards non-agricultural sectors and capital intensive technology; the rural-urban migration; the increase in manpower supply in spite of the limited absorbtive capacity of small modern formal employment sector; imbalances in the demand and supply of specific skill spectrum; inadequate wage and incentive structures and institutional arrangements for allocation and utilization of manpower resources. Unemployment among the educated female tends to be higher than the educated male.

Unemployment in educated young people seems to follow an inverted U-curve; unemployment rates for secondary school graduates tend to exceed those for primary school leavers but apparently decline again for higher education graduates. This may well be only a transitional phenomenon. As supply at any particular level of education increases, the employers tend to raise the minimum qualification requirements for the jobs. Thus jobs which require secondary school qualifications begin to call for college level qualifications once applicants are available. By this process, the unemployment bulge steadily moves up the educational ladder. This is in evidence in a few countries where the unemployment rates among college graduates are already beginning to exceed those for secondary school graduates. Generally, the rates-of-return studies done in the Asian countries, now show quite high rates of return, both private and social, for college education.

The problem of educated unemployment arises from the fact that the employment that is sought is in the modern wage sector in which employment opportunities do not grow as fast as the output from secondary schools and the universities.

In some countries, the problem of unemployment among the educated is also 'structural' in character; that is, employment opportunities are available but they are of a kind or in places which do not attract the educated seeking jobs (for example, in agriculture and the traditional sectors or in rural areas). This structural imbalance is due to a variety of factors; but an important one (and so far as education can contribute to the solution, the most important one) is the fact that the educated may not possess the kind of skills, work habits and basic knowledge which fit into employment opportunities (including self-employment). This relates directly to the content of education. In most countries secondary education is general and does not provide the students with any employable skills; they must go on to third level education to improve their chances of employment. Whence the constant pressure for expansion at the third level.

The solution of the problem of unemployment depends on a series of factors and measures pertaining to the whole economic and political domain, and not only education. At the same time educational policies, in addition to serving individual development and self-fulfilment, have to address themselves to the wide spectrum of national needs through creating a broader base of education and training, replanning of educational structures and content for greater relevance to the social and economic goals, and through the interlinking of education and productive work.

Part Three

SIGNPOSTS TOWARDS THE FUTURE

Chapter Six

THE MINEDAP V (BANGKOK 1985) DECLARATION

The Conference, MINEDAP V, was meeting at a specially important juncture in time. Mid-way in the course of the Development Decade, it could take stock of the actual progress in light of the original aspirations. This was also a period when quite dramatic economic and social transitions were beginning to show in Asia and the Pacific, with rapid economic change strongly influenced by both external developments and internal dynamics taking hold in several Asian and Pacific countries.

The spirit of the Conference derived from the strong sense of regional and inter-country co-operation which, transcending the many diversities of national situations, has grown from strength to strength in the regional conferences of the ministers of education in the last 25 years. It is in this spirit that the conference examined the problems and priority goals of educational development in Asia and the Pacific, drawing lessons of experiences from the successes as well as from the shortfalls and failures. The Conference adopted a Declaration in which it set up the goals and priorities for the future as signposts and a series of Recommendations which provided a general plan of action within the framework of regional co-operation.

DECLARATION OF MINEDAP V

1. The Fifth Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia and the Pacific, organized by Unesco with the help of the United Nations Economic and Social Commission for Asia and the Pacific, meeting in Bangkok from 4 to 11 March 1985 at the generous invitation of the Government of the Kingdom of Thailand, solemnly adopts the following Declaration:

2. The years that have elapsed since the Fourth Conference of Ministers of Education and Those Responsible for Economic Planning in the region have brought difficulties

which, while creating obstacles to the development of education have also constituted a challenge. In particular, Member States have not escaped the consequences of the economic crisis which has affected the greater part of the planet, bringing recession, national indebtedness for many countries, and unemployment. The countries of Asia and the Pacific as a whole have developed their agricultural production, and some of them have achieved a very high rate of economic growth, while others have made great strides on the road to industrialization; but many countries in the region have experienced impediments and delays in their development efforts. However, where the development of education is concerned, the Conference considers that, to a large extent, the challenge has been met.

Education for all

3. The Member States of the region are deeply committed to the ideal of 'Education for All', and throughout this period they have never ceased to regard the universalization, democratization, and improvement of education as an essential factor of development. They are unanimous in believing that their overriding concern for equity and for the reduction of inequalities coincides with their determination to attain the objectives of social and economic progress and the strengthening of national unity.

4. The Conference notes with satisfaction the progress made in increasing school enrolments, the numbers of which rose between 1960 and 1982 by 259 million, including 147.5 million for primary education alone, while the enrolment figures for higher education increased fourfold.

5. The Conference nevertheless takes note of the fact that, owing to the high rates of demographic growth, the number of children and young people who do not have access to education remains substantial and, in particular, that it has not noticeably declined in the primary school age-group; meanwhile, despite the marked reduction in the illiteracy rate over the past 15 years, the number of illiterates has been expanding in absolute terms, and in 1985 has reached the figure of 618 million, or two-thirds of the number of illiterates in the world as a whole.

Removal of educational disparities

6. The Conference is aware that fresh efforts are necessary in order to reduce the considerable disparities existing not only between countries but also, in many Member States, between the various population groups. These disparities are particularly detrimental to women, to people

living in rural areas and to various disadvantaged groups. Furthermore, the distribution of enrolments among the various types of education at a particular level, and especially between general education and technical and vocational education at secondary level, and among the various disciplines of higher education, does not appear, in many cases, to be commensurate with national development needs. Wastage rates, especially at primary school level, frequently remain very high. The quality of education has generally improved, particularly as a result of better standards of training for teachers, but in some cases it has deteriorated with the expansion in enrolments and suffers from a lack of resources. A number of reforms have been undertaken for the purpose of improving curricula and methods. In many countries, however, they do not meet all the requirements for the sort of education that will be capable of assuming its new roles and adjusting itself to the context in which it takes place.

7. Looking beyond the diversities of their cultures, resources, endowments and education systems, the Member States of Asia and the Pacific are convinced that the development of education in the years to come should reflect certain common concerns, and should, in particular, take the following points into account:

Universalization of primary education

a) The Conference considers that the universalization of primary education that has already been, or is about to be, achieved in a great many countries of the region, can and should become a reality for all the countries of the region in the next five years, and at the latest before the end of the next decade. It considers that primary education available to all should last long enough to enable every child to acquire a solid grounding in basic subjects and in the skills and abilities necessary to develop the child's personality and prepare him or her for adult life.

b) The Conference considers that the universalization of primary education should go together, in many cases, with an improvement in retention rates and in particular with a reduction in early drop-outs.

Promotion of adult literacy and out-of-school education

c) The Conference considers that, while nothing short of universal primary education can stem illiteracy at its source, this should, in the years to come, be combined as part of a global strategy with effective

adult literacy campaigns at the national level. Such action at the national level should be supplemented by regional co-operation among the Member States of Asia and the Pacific with special reference to the exchange of experiences.

d) The Conference observes with satisfaction that school and out-of-school education are tending to complement and enrich each other, in that certain out-of-school programmes can make up for inadequacies in primary and secondary education's capacity to cope with demands, and are able to contribute to the renewal of primary and secondary education.

e) The Conference notes the importance of distance education at both secondary and tertiary levels emphasizing the role it plays in national development especially for out-of-school youth.

Enhancement of quality of education

8. The Conference stresses the importance of qualitative improvement of education in all its aspects, including the renewal of its content and methods with a view to increasing its relevance to the needs of contemporary societies in Asia and the Pacific. It believes in particular that:

Science for All

a) The 'Science for All' programmes which have already been undertaken in a number of countries should be expanded and reinforced, both for the purpose of giving every individual a scientific outlook on life and the necessary preparation to deal with new technologies that are influencing everyday life more and more and transforming the environment; for the purpose, too, of animating aspirations to pursue careers in science or technology. The Conference deems it important to bring science education closer to life and the environment and to orientate it towards the solution of practical problems. The Conference wishes to recall that science education should ensure a high standard of basic scientific knowledge and that greater emphasis should be placed on experimentation.

Population and environmental education

b) Greater attention should be paid to population education and environmental education, and to health and nutrition education.

Linking education with the world of work

c) The measures taken in many countries to link education more closely with the world of work should be stepped up, both by introducing the experience of productive work into the curricula and by establishing closer relations between educational institutions and the production sector, as well as by harmonizing training and employment needs. Education systems should provide as many retraining opportunities as possible in the light of changes in the pattern of employment offers and in employment profiles; technical and vocational training should be exapnded in a number of countries and its curricula should be brought into line with technological progress.

Educational renewal – education and communication

d) Educational curricula and methods should take into account the ever-increasing development of the role played by the media, communication technologies and information sciences, because of their contribution to the educational process and the possibilities they open up to provide wider access to education, and also because of the need to train every individual to sift the messages conveyed by the media, to interpret them and to make use of informatics.

Educational renewal – education and culture

e) Education would not ensure the overall development of the personality or make an adequate contribution to building up the national community and strengthening cultural identity if, while placing greater emphasis on science and technology, it did not also give due prominence to the cultural values on which the spirit of every people is founded, to the development of artistic creativity and aesthetic appreciation and to ethical values. At the same time, education, whose aim is to give every member of the community roots in his or her national culture, should also foster the spirit of international understanding and co-operation.

Higher education and development

9. The Conference believes that higher education, which has already done much through training and research to further the advancement of knowledge and social and economic progress in various countries of the region, should increase its contribution to development, especially rural development, and play a greater part in scientific research

efforts. It seems desirable that, besides universities, institutions providing short cycle courses of a practical nature should be further developed, and that a larger percentage of students should enter the science and technology courses. At the same time, higher education, which is playing an important part in the training of educators and which is already providing training to many primary school teachers, should be more widely involved in the renewal of education, especially through the development of research in the educational sciences.

Teacher education

Educational planning and management

10. The Conference recalls the paramount importance of the quality of the training given to teachers, who continue to be the key figures in all education systems. It also stresses the need to strengthen educational planning and management in the light of recent developments, such as the trend towards decentralization and the linking of formal and non-formal education.

Regional co-operation for educational development

11. The Conference proclaims its full commitment to the pursuit of efforts undertaken towards the development of education in the region.

12. The Conference is convinced that regional co-operation, which has developed so fruitfully in recent years, particularly under the auspices of Unesco, should be intensified and expanded, especially in certain fields such as 'Science for All' and the struggle against illiteracy. It considers that the very diversity of cultures and of levels and types of economic development in the countries of the region has made exchanges of experience among them more worthwhile. It expressed profound appreciation of the excellent services rendered by UNESCO's Regional Office for Education in Asia and the Pacific and by the Asia and Pacific Programme of Educational Innovation for Development. Welcoming the strengthening of the regional co-operation structures that UNESCO has placed at the disposal of the Member States of Asia and the Pacific in accordance with wishes made known during previous regional conferences, it expresses the hope that these structures may be further strengthened in the years to come. It sets great store by the specificity of regional co-operation under UNESCO's auspices, this being an integral part of international co-operation which it is UNESCO's task to promote in discharging the mission assigned to it by its Constitution and which is imperative in view of the global scale of the major problems of mankind.

Chapter Seven

RENEWING EDUCATION FOR DEVELOPMENT

In the education policies of the countries, education is viewed as an integral part of national development. The Conference format bringing together ministers of education and those responsible for economic planning testified to its nature. The question arises, what development? In striking contrast to the assumptions and thinking of the First Regional Conference of Ministers of Education of Asian Member States (April 1962), MINEDAP V viewed development not only as economic growth; rather it comprehended 'opportunities to all people for better life', with man 'as the end of development and the instrument'. Therefore when the Conference spoke of 'national development', it was also thinking of the persistent problems of poverty and deprivation and of the fact that 90 per cent of the world's absolute poor are to be found in the region of Asia and the Pacific.

Development as transformation

Education and development are linked in a variety of ways. First, education is a human right, the exercise of which is essential for individual development and fulfilment. The individual's capacity to contribute to societal development is made possible and enhanced by his or her development as an individual. In this light education is also a basic need.

It is also a means by which other needs, both collective and individual, are realized. Then, education is the instrument by which the skills and productive capacities are developed and endowed. All these interrelationships of education and development are inseparable from the conceptions of educational policies. It is in the 'second order of action' that problems arise.

The aspect of development that MINEDAP V highlighted was as a means of rapid and far-reaching transformation – 'building up a nation full of creativity and vitality, relevant to the twenty-first

century', and the renewal process in education which makes it possible for education to contribute to such transformation.

Renewing education for development – sources

The dynamics of education and its role in each society in development and transformation make it essential that education continuously renews itself in order to prepare for a future rather than for obsolescence. This renewal process in education manifests itself in the curriculum in its broadest sense, and the various ways in which knowledge is communicated to learners. The renewal process derives from a variety of sources which include: the growth of human knowledge, which is the basic component of education; the heritage of collective experience and values, which education transmits to new generations; the means and methods of communication, by which knowledge and values are transmitted; and the new values and aspirations which the human spirit adds to the collective experience and wisdom of the past or by which the heritage of the past is reinterpreted and reassessed.

Knowledge growth. The speed with which the growth of knowledge is now taking place, its range and sweep, are epitomized in the expansion of knowledge in science and technology. It is estimated that in the period 600 BC to AD 1700, the body of scientific knowledge doubled every 1000 years; from the beginning of industrialization until the early twentieth century, the doubling period accelerated to about 200 years; and now in many scientific fields, knowledge is doubling every 15 years or so. Moreover, the lag between a discovery in a fundamental science and its technological application has narrowed remarkably. This enormous growth in the volume and application of knowledge impacts on every aspect of modern life – social, economic, and cultural. Parallel to the rapid growth of knowledge is the increasing velocity with which knowledge is being circulated.

New configurations in the fields of knowledge are emerging and are tending to efface, to some extent at least, the old-established demarcation lines between the natural sciences and the social and human sciences. Cross-over points are emerging between the major fields of human creativity. Another direction of advance is the aggregation of different components of traditional disciplines into new integrated fields.

A notable feature of the growth of knowledge and technology (know-how) is that its future course is difficult to forecast and this

has profound implications for education. Knowledge can no longer be looked upon as a stable body of 'facts'. The content of education and its methods do not rest on any such unchanging body of facts, rather on the concepts which bring the facts together and illuminate them. In short, the empowering concepts and interconnections determine the basic methods of education in a context of rapid knowledge growth. Education has to prepare for the unpredictable and the uncertain.

It follows, therefore, that the options open to learners in regard to fields of study should not be closed too early. This is reflected in a developing trend in several countries in the region to postpone specialization by field of study to a later stage in the education career so that all learners have adequate introduction to the main domains of knowledge and their interconnections. The education programme should introduce learners to the rapidly changing world of knowledge and the applications of technology, as an integral part of the general education of all young people.

The search for new knowledge, notably scientific and technological knowledge, has been concentrated in a limited number of countries which alone possess the means for conducting research in certain advanced fields in which the commercial potential is very high. A wide gap is dividing the countries which have such high growth potential from those which do not. It would be unfortunate if this gap continued to widen. It is one of the functions of education in each country to create the capacities to use the knowledge being generated world-wide, as well as to contribute to the creation of new knowledge. Higher education clearly has a crucial role to play in this by providing a firm knowledge base for endogenous development, drawing on the cumulative inventions and discoveries the world over. In this regard, many countries of the region are undertaking programmes within the national education system aimed at the identification, nurturing and development of students with particular ability in science.

Education and communication. In perhaps no other fields has there been such a profound revolution as in communications and informatics. The communication technologies have multiplied and become more and more powerful. The development in computer technology, with the minicomputers and microcomputers coming into widespread use, will soon affect every individual. Telecommunications and data processing have already increased dramatically the volume of information readily available.

The changes under way in communications and informatics are connected not only with the development of specific new technologies, but also with the power and special opportunities offered by them in combination. They are already beginning to affect various aspects of life in all countries, rich or poor, large or small. These technologies are playing a part in transforming societies in Asia and the Pacific, as in other parts of the world and moving them towards ever greater complexity.

Communication technologies are being used for educational development in several countries of the Asia and Pacific region. For example, there are now 'open universities' in a number of countries: notably China, Japan, Pakistan, Sri Lanka and Thailand. Educational mass media services have been developed at the school level in several countries, in some cases to provide direct instruction, but more commonly for enrichment purposes, or to support curriculum innovation. One country has recently developed a country-wide radio network for educational and developmental programming. Mass media are also used to support literacy and non-formal education programmes. Other forms of audio-visual support are well entrenched in many educational systems, including the regular use of audio and video cassettes for instruction. In the new, but directly related field of computer education, several countries have been prompt in introducing 'computer literacy' programmes. Education must provide computer literacy – not only at a technical or skill level, but increasingly as part of the general education of children who will be living in a more information conscious age.

The new educational technologies, which originated in the developed world, have had a varied history since their introduction into the Asia and Pacific region, and much more is now known about the nature and constraints of their adoption. In the 1960s, they were imported relatively unchanged into many countries, and were found on more than one occasion to be inappropriate to the educational demands confronting them. Whereas in some smaller countries the local environment allowed for a relatively direct transfer, in the larger countries of the region, as a consequence of the size of their terrain, population growth, and material and infrastructural limitations, a complete adaptation of technical forms had to be undertaken. The experience gained, for example, in India during the conduct of the SITE* experiment has proved invaluable for a second

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* Satellite Instructional Television Experiment.

generation of media development, both for the national satellite and for other forms of media distribution. Comparable lessons have been learned in using audio and video cassettes in the development of educational radio, and in multi-media learning systems, largely as the result of carefully structured evaluation programmes.

The implications of communication technologies and informatics for education are beginning to emerge more clearly. There is, first of all, a need for research and development in the information and communication technology field. Part of this effort concerns the assessment of new technological forms, to see how they might best be adapted, if at all, to the national environment; another part relates to their adaptation and the generation of new or modified technologies with local relevance. In this effort, the universities and institutes of scientific and technological research have a major role to play.

Secondly, the developments in computer technologies have done more to speed up the growth of scientific and technological knowledge than perhaps any other single factor. The creation of scientific and technological capacity in the developing countries will depend in a very crucial way on their use of these technologies, which represent a power of unlimited possibilities.

A third issue is one of discrimination and selectivity, a problem arising from information overload. While information has itself been increasing exponentially, and while it is technically possible to treat a much greater amount of information today more quickly and at a lower cost than ever before, the actual consumption of information by human beings increases much more slowly. There is also an increasing danger of the deliberate manipulation of information such that the models of reality that people learn from the media are either incomplete or distorted. In curriculum development, that which is omitted may be as important as that which is included.

One important function of the school will thus be to develop in the learners the ability to assess messages, to interpret them critically, and to classify and organize this continuous and heterogeneous flow of information. Only through the development of such skills early in the educational process can individuals deal with the growing variety of information technologies and their products and use them with discretion.

The 'information age' heralded by some observers does not exclude the use of traditional media. A primary objective of education

should be the creative mingling of old and new forms in such a way that they enrich the learning process. Some traditional media can be preserved, and given a wider exposure, through the modern mass media, as has happened already in a number of countries. What of the book, the traditional anchor of the teaching/learning process? There is no indication that the book will disappear as a form of communication. It has the advantage of allowing the reader to pause, to reflect, to judge. The book can be re-read, and first judgements can be reviewed and revised. In this sense the book is superior to all other media, because it allows opportunities for the play of individual judgement, rejection, questioning, synthesis.

Education and culture. The other source of educational renewal is the cultural heritage reflected in the whole range of expressions which give meaning and worth to the society's being. These expressions comprise not only the distinctive forms and styles associated with the society's culture and art, but also the habits and customs characteristic of the way of life of the community and of its spiritual and ethical values. The sense of cultural identity is the awareness among the members of the community of cultural heritage as a continuing expression of their existence; this sense of identity gives them a feeling of belongingness, of being a part of the past flowing into the present and on into the future.

The need for a reaffirmation of cultural identity is more urgent today because of the tendency towards uniformity and homogeneity generated by economic and material forces and by the mass media. The re-awakening of the sense of cultural identity in reaction to the pressures towards uniformity has contributed to the enhancement of the status of national cultures in their distinctive diversity. The sense of cultural identity appears now as a driving force in cultural renaissance, through which a society continually recreates itself.

Next only to the family, the school is the most important institution for the transmission of cultural values. The role of education, however, is not only one of 'informing' and 'transmitting', it also prepares a new generation to renew the cultural process. It should impart to the young a sense of participating in a process which over a long time has shaped the values and characteristics of the society of which they are a part.

Another role of education, and an indispensable one, is to be a medium in which the various new influences are assimilated in the cultural stream. All living cultures have grown and evolved by

assimilating new influences and by interaction with the traditions and values of other cultures. In the modern world, powerful influences derive from science and technology. Education has a vital role in promoting the processes by which scientific and technological knowledge is assimilated in the fabric of national life without detriment to the people's values.

In the preparation of educational plans, and particularly in curriculum development and teacher education, the organic interrelationship between education and culture needs to be fully recognized. It is also important that cultural orientation should begin from the earliest years of schooling at primary level and continue in appropriate forms throughout the schooling period. It should be linked closely to the activities outside the school, and in particular, the schools should make full use of local cultural resources.

There is a 'cultural' dimension in every subject taught in the schools. This needs to be brought out in the methods of instruction. In the teaching of 'cultural subjects' (which generally comprise the arts and social studies), the evolution and continuity of cultures and the diversity of their expressions could form an appropriate basis for a creative approach to learning. Of course, the artistic and aesthetic expression characteristic of a cultural heritage deserves due attention in this school. This is not to say that only artistic expression is a special element in the education of young people. Furthermore, the curricula and instructional materials, as well as teaching methods, should also cover explicitly the behavioural and moral values embodied in the cultural heritage. Audio-visual materials are important instructional means especially at the school level. They can cover the wide variety of cultural forms, local and national, and video cassettes in particular, have a signal contribution to make which few other methods can match.

Chapter Eight

TOWARDS THE YEAR 2000 – EDUCATION FOR ALL

> Illiteracy can be regarded as one of the great social problems of our time and a major challenge to the international community. Its elimination calls for an effort in two directions – firstly securing the general introduction and updating of primary education so as to stem illiteracy at its source, and secondly, organizing systematic educational campaigns for illiterate adolescents and adults.
>
> UNESCO's Medium-Term Plan (1984–1989)

Universalization of primary education, eradication of illiteracy

One of the main priorities over the next ten years is to foster the development and renewal of primary education and to promote the total elimination of adult illiteracy. The goal of universalizing primary education would be difficult to reach if illiteracy in the adult population is not at the same time eliminated; on the other hand, eradication of adult illiteracy is possible only if primary schooling is provided for all children. The eradication of illiteracy and the provision of universal primary education reinforce and complement each other in strengthening the motivation to learn, in the mobilization and use of available financial, material and human resources, and in linking such educational action to national development goals and the struggle against poverty and deprivation.

MINEDAP V, by a resolution, called upon the Member States of Asia and the Pacific, to undertake effective measures for:

1. Eradicating illiteracy by the year 2000; and
2. Achieving universal primary education well before the year 2000.

Further, MINEDAP V proposed that the Member States of the region focus their co-operation on a major programme for achieving the above goals and that UNESCO and other international agencies support and strengthen the regional co-operative endeavour.

Universalization of primary education

Primary education in the Asia and Pacific region is seen to have a particular long-term value in bringing about social and economic transformation. Expression of this faith is enshrined in the constitutions of many Member States and is elaborated in national development plans, which give a high priority to the achievement of the goal of universal primary education.

A reference to the analysis in Chapter Four will recall the different stages of development that the countries have reached in the provision of primary education for all children. Countries where the goal of universal primary education has yet to be realized have adopted policies and plans setting the target dates for completing universalization well before 1995. Several countries have decided to lengthen the duration of the first level education to eight or nine years for all children. The targets for universal primary education are therefore two-fold – the year by which all children will be in primary education of the duration as in the present national structures, and secondly the enrolments which would have been achieved in an extended span of primary education by the year 2000.

The problems associated with the universalization of primary education, as well as the importance of overcoming those problems, have received much attention in regional meetings and conferences. The Karachi Plan, formulated in 1959-1960 by representatives of Asian countries, put stress on the provision of free and compulsory education for a minimum of seven years' duration. Subsequent conferences of ministers of education of the region continued to support this goal, especially through the document which became known as the Asian Model of Educational Development. The declaration adopted by the Ministers of Education at MINEDASO IV (Colombo, 1978) reaffirmed the 'commitment to the principle of universal schooling of children'.

Universal primary education (UPE) – three essential dimensions

Provision of facilities, such as school places, and enrolling pupils, are only one aspect of primary education for all children. Unless the

children are able to stay through the primary education cycle and to acquire, with functional effectiveness, the basic skills of literacy and numeracy and understanding and reasoning, they would not have accomplished the first decisive step in education. This means that dropping out and repetition with the associated human and financial wastage would have to be eliminated and the quality of primary education reflecting the learning gains of the learners would have to be enhanced. There are thus three essential dimensions of universalization of primary education:

1. ***Universal access.*** This involves providing facilities and incentives for enrolment in primary education on a scale and in forms adequate and suitable to ensure that all children of primary school age have access to and are able to benefit from such facilities.
2. ***Retention and completion.*** Educational facilities cannot be effective unless children stay long enough to acquire the basic learning skills.
3. ***Learning achievement.*** This refers to the standards of pupil performance and achievement through which the objectives of primary education are realized. Improvements in various aspects of curriculum development, teaching/learning materials, and pre-service and in-service teacher education are needed to help children attain the required levels of achievement. The 'productivity' of primary education, in terms of the desired competences to be acquired by children, is now becoming an issue of much concern in all countries, including the developed countries. Viewed in a larger context, the issue is to ensure that equal opportunity for access is matched by equal opportunity for educational success.

Universal access: targets

Most of the countries in the region have adopted policies with target dates for achieving UPE in a phased manner. Programmes and projects covering new structures and processes for implementing these policies have also been initiated. The target dates mentioned in the national plans suggest that by 1995 almost all countries of the region would have achieved universal access to primary education.

In Chapter Four it was noted that the majority of out-of-school children are girls. In one country, for instance, it is estimated that girls constitute three-fourths of the non-enrolled children in the

compulsory education age-group. So the full enrolment of girls will, in fact, largely complete the task of universalizing primary education in many countries.

While girls constitute the majority of children at present outside the reach of primary education, there are several disadvantaged groups (boys and girls) who have yet to be brought fully within its ambit. They include, among others, the rural poor, minority groups, nomadic tribes, people of mountainous and other inaccessible areas, and urban slum-dwellers.

The provision of educational services for population groups with special characteristics calls for programmes tailored to their specific needs. This applies in particular to groups with languages other than the national language. Initial instruction in the mother tongue and bilingual teaching would be essential.

The considerable number of handicapped children in the region constitutes another group with special needs. At present there are only about 120,000 places available in special education institutions in 20 countries. However a majority of children with handicaps could be educated within ordinary schools, but this 'mainstreaming' would require the reorientation of teachers in dealing with children with handicaps.

Retention and completion. In many countries, a major factor undermining universal primary education is that a large proportion of the children who enrol in school drop out before completing the entire primary cycle; in fact, usually within the first two years. The incidence of drop-out is indicative of the low efficiency of the education system and represents a waste of human and financial resources invested in the system. This persistent problem associated with the primary education systems in several countries was discussed in greater detail in Chapter Four. The point to stress is that the elimination of the phenomenon of dropping out and considerable reduction in the incidence of repetition are essential, and indeed indispensable, elements in any plan of action to achieve universal primary education.

School achievement. All the effort and expense of providing school facilities, materials and teachers means little if, at the end of the primary school cycle, children have not acquired appropriate skills, abilities and attitudes to prepare them for life. Children and their parents will not support a school by attending and co-operating unless they are convinced that there will be a positive learning outcome.

Educators in many countries of the region are looking with concern at the level of achievement of primary school children. Assessment studies have been made of the outcomes of the primary school system in Australia, Indonesia, Malaysia, Nepal, the Philippines, the Republic of Korea, Sri Lanka, Thailand and in some states of India. In almost all cases, the level of achievement of children has been found less than satisfactory.

These studies have led to the gradual adjustment of primary school curricula so that the majority of children can reach specified standards. Almost all countries that have conducted national assessments of pupil performance have subsequently carried out major programme reforms which have led to considerable increases in enrolment ratios and reductions in drop-out, as well as improved scholastic achievement.

Experience has proved time and again that a qualitative improvement and renewal of primary education, increasing its efficiency and holding power, and fuller enrolments are all closely intertwined as in a seamless web. Such renewal calls for a global and comprehensive approach covering curriculum development, teacher training and improvements in teaching methods and materials as well as in planning and management, notably:

a) The effective preparation of young children for primary schooling;

b) The implementation of more effective strategies and methods of instruction, to enable all children to attain an agreed level of competence in the basic skills of numeracy, literacy and communication, in the 'life-skills' (co-operating with others, habits of systematic and hard work) and in one or more manual skills;

c) The provision of teachers with competencies, attitudes and perceptions necessary to enhance their pupils' achievement with the skills required to enlist out-of-school resources; and

d) The effective involvement of parents and the community in the education of their children.

Curriculum renewal. In several countries, there has been a re-examination of the curriculum in relation to UPE when it was felt that the existing curriculum did not meet the diversified needs of learners, particularly those from disadvantaged groups. Irrevelant curricula and unsuitable teaching methods are seen as an important

reason for non-enrolment and early withdrawal from school. Curriculum renewal in these countries is moving towards:

a) Decentralized adaptation of the core curriculum to meet the specific needs of local communities;

b) Infusion into the curriculum of issues which are of great concern to local communities, such as health, hygiene, nutrition, population education and environmental education;

c) Emphasis on socially useful productive work aimed at linking education and the world of work and at promoting from quite early age a feeling of the dignity of manual work and work methods;

d) Use of the local environment as a learning resource, particularly for generating concern for its protection and preservation;

e) Strengthening of science and mathematics in the curriculum to prepare children more adequately for living in a society in which science and technology have a crucial role in national development as well as in individual living;

f) An orientation with respect to moral values.

New approaches to teacher preparation. A primary education system for all children which is also in the process of growth and renewal impels redefinition of teachers' roles and competences. The new roles of teachers visualize their involvement in identifying the problems of groups out-of-school, in community education and affairs, in intensive work with potential drop-outs, and in raising children's achievement level. Then, with the development of 'complementary forms' of education, the preparation of teaching personnel for these innovative programmes calls for special attention.

With increased emphasis on in-service teacher education, a variety of approaches are being used in the region, including correspondence courses and radio and television packages (comprising radio or television broadcasts, pre- and post-broadcast discussion and support material in print). In some countries, teachers' centres are being set up to provide consultation and other services to teachers, along with weekend orientation courses. Networks of institutions (e.g. 'cluster institutions') providing support services to each other is another approach used for the in-service upgrading of teachers' competences through school-based or area-based programmes.

New structures for planning and management. Three important considerations influence the design of structures for planning and implementing UPE. These are the need to:

1. Bring together the contributions of various departments and agencies of the government concerned with primary education;
2. Plan and manage the universal primary education programme in a way that will respond to the characteristics of the population groups concerned; and
3. Obtain the full involvement and participation of the communities.

In regard to the first consideration, several governments have set up, at the national level, primary education commissions or offices, which bring under one auspices the contributions of different government agencies and deploy the back-up support of the required expert services in a co-ordinated manner. The second consideration, in some way the most crucial one, involves developing the structures and processes of micro-level (community, district) planning and management. The capabilities of supervision and back-up services (which by and large are the weakest links in the present administrative and management systems) are then organized at micro-level where the plan should match the characteristics and needs of the specific population groups and areas to be served. Such developments are now taking shape in several countries, for example, 'cluster schools' in Sri Lanka, 'centre schools' in Pakistan, 'leader schools' in Thailand, 'school complexes' in India. Parallel initiatives in involving the local communities, the third consideration, have been undertaken on a limited scale in some countries. These three 'nodal' points (curriculum, teacher preparation and planning and management structures) have to be greatly strengthened and renewed in the context of universal primary education. Inter-country co-operation can be specially productive here by promoting cross-fertilization of experiences and ideas.

Complementary forms of education. Recognizing that conventional primary schooling may not be able to meet the needs of all out-of-school children, several countries are experimenting with, or have developed, other forms of education to complement the conventional primary school.

In one country, 100,000 'non-formal education centres' have been established, enrolling nearly three million children. The curriculum is flexible and aims at achieving in two years the basic

attainments reached by children in five years of formal schooling. In another country, 'literacy centres' and 'community learning centres' are being established to provide a parallel structure having links with the formal system to provide need-based learning opportunities to out-of-school children in the 5–10, 10–14 and 14+ age-groups.

'Slack farming' schools have been set up in one country to enrol children who cannot go to full-time schools because of financial difficulties. Another country runs some schools having a simplified curriculum with 20–26 weeks of instruction, depending upon the actual conditions of the locality. Learning centres have been set up in another country, to allow school drop-outs to study at home and receive individual guidance and evaluation of achievement at the learning centre. In yet another country, five-year primary schools have been set up which use a condensed curriculum and run in shifts.

These innovative structures have their strength in the fact that they are designed primarily around the specific needs of the children; on the other hand, there is a potential 'risk' also in some of the programmes in as much as they may become in relation to regular primary education, a parallel and unequal offering for the children from deprived and poor socio-economic classes.

In a number of areas, children cannot attend schools because schools do not exist. This is particularly true in sparsely populated areas where the establishment of a school within a village or zone is not found feasible on economic grounds. Similarly, nomadic populations, moving from one place to another, require alternative institutional arrangements for education. A number of countries of the region have developed innovative 'moving schools' to meet this situation.

Multi-grade teaching, combination of grades, and new admissions on alternate years, are being adopted in some countries to rationalize the use of educational facilities in sparsely populated communities. In some countries full-time schools with multi-grade teaching 'have become a major form in popularizing primary school education'.

Distance learning is emerging as a major means to reach those groups who, for various reasons, find it difficult to enrol in schools. Because of its flexibility, distance learning is able to cater to educational needs of diverse groups, including the in-service training of teachers.

In many countries of the region, radio and television are being used increasingly to support conventional and complementary educational activities. Television and radio lessons, which are listened to or viewed in schools or community centres, are followed by discussion under the supervision of a teacher. In one country, educational programmes are transmitted through a national satellite for the benefit of primary schools in selected rural areas.

A range of innovations and tested experiences are now accessible to make possible the education of all children in a nation. Given the commitment, the challenge can be met and children's educational deprivation can be rendered a thing of the past well before this century draws to a close.

Eradication of adult illiteracy

The problem of illiteracy will not solve itself in the flux of time. Without organized literacy action, illiteracy will continue to stagnate indefinitely, along with the associated ills of poverty and underdevelopment. Experience has shown that determined literacy action can reduce illiteracy radically within a five-year period. However, history indicates that such sustained literacy action is the exception and that more often literacy campaigns are 'turned on' and 'turned off' in line with short-term policy changes.

In recent years, many countries of Asia and the Pacific have addressed the problem of illiteracy with serious resolve, and some have made significant advances towards eliminating adult illiteracy. This resolve reflects a noticeable change in the perception of literacy, now increasingly recognized as a prerequisite for cultural, economic and political development. Literacy has become an integral part of the 'basic needs' development strategy and is considered essential for the active participation of the people in the development process.

The national studies prepared for UNESCO by 13 Member States of the region (UNESCO, Bangkok, 1984) indicate target years for the attainment of full adult literacy in each country. Taking into account these target years and current literacy levels, the countries in the region which have not yet achieved full literacy appear to fall into three groups:

Group A : ***Full literacy achievable by 1990 or earlier***
Burma, Fiji, Malaysia, Maldives, Mongolia, Philippines, Republic of Korea, Samoa, Singapore, Sri Lanka, Thailand and Tonga. (These countries account for 7 per cent of the region's population).

Group B : ***Full literacy achievable by around 1995***
China, Indonesia, Socialist Republic of Viet Nam and Turkey. (These countries account for 44 per cent of the region's population).

Group C : ***Full or high levels of literacy achievable by around year 2000***
Afghanistan, Bangladesh, Bhutan, India, Iran, Lao People's Democratic Republic, Nepal, Pakistan, Papua New Guinea. (These countries account for 34 per cent of the region's population).

Raising the level of adult literacy by target years is a function of (i) the existing level of literacy; (ii) the rate of increment of new literates, which should be, at the minimum, clearly higher than the annual addition to the population; (iii) the reduction in the rate of school drop-outs; (iv) the volume of the education system's output, notably at the first level; and (v) the demographic factors (age-structure, mortality rate). It should however be clear that adult illiteracy in the form of a major problem cannot be eliminated by the output of primary education alone. Eradication of illiteracy calls for specific measures aimed to achieve it. At the minimum these measures should achieve an annual increase in the numbers of new literate persons which is higher than the addition to the adult age-group population. On empirical evidence it can be inferred that countries which have an adult illiteracy rate of 60 per cent or above will require a ***minimum*** annual increase in the numbers of literates of the order of 5–6 per cent in order to prevent the numbers of illiterates from increasing. These countries would have to increase the number of literates by 8–10 per cent annually to be within reach of substantially eliminating adult illiteracy by the year 2000. Countries in which the illiteracy rate is below 35–40 per cent would need a minimum annual increase rate of literacy of the order of around 3.5 per cent; in order to eliminate illiteracy well before the year 2000, these countries would have to increase the number of literates at an annual rate of 5–6 per cent.

The elimination of illiteracy by a predetermined target date will call for effort of an order well above the minimum rate.

Elements of the strategies for adult literacy

Although the specific content of a strategy can be determined only by the authorities of the country concerned and in relation to

its specific socio-cultural and economic situation and development goals, experiences in the region indicate a number of general considerations which seem to determine the effectiveness of strategy for literacy. No doubt the single most important factor in literacy is the depth and consistency of political commitment, without which the necessary sustained and determined long-term action is not possible; such political commitment should be highly visible and widely shared at all political levels.

A closely related factor is the broad involvement of various social groups, institutions, public and voluntary agencies, local communities, and commercial enterprises. A strategy which attracts widespread support and involvement is much more likely to stimulate popular participation, particularly essential for successful adult literacy programmes, and to generate the human and material resources needed. Such a strategy will necessarily have to provide for flexible structures for planning and implementation at all levels, both to encourage broad involvement and participation and to ensure the relevance of activities to particular needs and to local environments.

Targets, if realistic, time-bound, and generally agreed, can be an important element of a strategy, providing a useful frame of reference for stimulating effort and measuring progress. Different approaches have been adopted by different countries at one time or another, some countries have launched nation-wide literacy drives in order to create the most favourable climate of enthusiasm and wide base of motivation. The target, in this approach, is indeed the whole illiterate population, even though the drives may have to be regularly repeated. Some other countries have preferred the one-area-after-another approach, in order to concentrate the maximum intensity of co-ordinated effort in one area (a district or a sub-region). Again some countries target the population of an age-group (generally 15–45 years), combining this with an area-by-area approach. The factors that should count in selecting the strategic approach include, public support mobilization, optimum use of resources and micro-level planning capability.

Ultimately, the success of a strategy depends on the resources allocated for its implementation, and a sound strategy will seek to multiply those resources and increase their impact. It should be recognized that neither the quantitative aspects, nor the related qualitative issue, can be resolved merely by improving and applying existing methods and practices. Certain persistent problems and new problems will require new solutions. Thus a strategy should provide

for a research and evaluation component as well as the flexibility to apply promising findings.

The strategic concerns of adult literacy and general education including UPE are inter-linked with development strategy in general. If, for example, a country has adopted the modernization of agriculture as a principal development goal, its strategy for full adult literacy should be responsive to this priority. Conversely, strategies in other social sectors, such as public health, should take into account the targets of UPE and adult literacy. Such harmonization of strategies should facilitate concerted action, particularly at the community level.

In several countries which have carried out successful and effective literacy programmes, an apex body for the overall direction and energizing of literacy work was set up, generally at the highest level of the government, overarching the ministries/departments and invested with the requisite authority. The experience in these countries has been very positive in favour of such an apex body in the form of a commission or council which can co-ordinate inter-ministerial participation in literacy and also engage the interest and support of non-government bodies and organizations.

Planning and implementation. Whatever the strategy or combination of strategies, it would involve planning and implementation to ensure not only that policy is translated into concrete action but also that such translation and action processes are continuous, consistent and systematic.

Planning at the macro-level alone usually fails to take full account of the realities of local situations and is thus not firmly based on the needs and motivations of the adult learners in specific environments. Therefore, appropriate planning and implementation structures are needed at the national and local levels, sharing responsibility for the design and implementation of the literacy programme, the training and orientation of literacy personnel, the preparation of literacy materials; the organization of post-literacy activities, and for field research and evaluation.

The latter aspect deserves some emphasis, since it is often neglected. An efficient system for monitoring and evaluating the literacy programme at all levels is very important; it should provide for information 'feedback' from the field and for evaluation of the programme's efficiency and effectiveness in meeting the needs of participants. Such a system should be closely linked with research

activities focused on pragmatic questions, such as the relative effectiveness of different methods of language teaching for adult learners, the simplification of language scripts, means to develop and sustain motivation, the design and evaluation of learning materials. There are few areas of education in which action research is so urgently needed, and in which so very little of practical application has been done, that may be relevant to the socio-cultural context of the developing countries.

Since literacy work usually involves various agencies and departments at several levels of operation, literacy planning should also ensure that functional co-ordination mechanisms are established. These should facilitate planning and management, as well as research and evaluation. In a broader context, literacy programmes need to be co-ordinated with other development programmes, particularly at the community level. The linkage of literacy action to programmes concerned, for example, with community development, public health, and modernization of agriculture can enhance the effectiveness of all programmes in meeting the basic needs of the individual and the community.

Much of the literacy work is carried out through existing personnel and agencies or voluntary workers. In one form or another, it is in the nature of a 'movement'. Indeed the use of existing resources including human resources on an extensive scale is a key to successful implementation in the special circumstances of the developing countries. It is however essential also to have an institutional support structure for action research, training, materials development, monitoring and evaluation. Depending on the size of the country, the institutional support structure will comprise appropriate institutions at national, provincial and field levels. Here also the experience of the past is a useful guide, and it underlines the essentiality of institutions with a dedicated mission to literacy.

Resources for literacy action. In most countries of the region, the government provides funds for literacy work, usually within the budget of the Ministry of Education. However, the experience of countries which have undertaken large-scale literacy campaigns shows that official funding is supplemented by funds provided by local authorities, private agencies, businesses, and contributions in cash and in kind from communities. In addition, schools and other facilities are often provided at no cost, and many literacy workers provide their labour on a voluntary basis.

Several countries have succeed in mobilizing local resources for literacy on an impressive scale, e.g. China, Indonesia, and the Socialist Republic of Viet Nam; Burma's literacy campaign is almost totally supported by local resources. Literacy programmes in Bangladesh and in India benefit from the extensive co-operation of voluntary organizations. In Thailand, religious organizations and commercial enterprises are engaged to support literacy and post-literacy activities. These several examples illustrate the scope for imaginative mobilizing of funds, personnel and material support for literacy programmes.

Training of literacy personnel. Crucial to the success of any literacy programme is the motivation and training of literacy personnel. Much actual literacy instruction is carried out by students, school teachers, and other volunteers. Normally, they should receive supervision and technical support from full-time literacy personnel with special training in the correct approach to adult learning. The poor results of some literacy programmes are attributed to inappropriate instructional methods and materials, leading to a loss of interest and motivation on the part of adult learners.

Some countries have set up training centres for literacy personnel, usually located within the catchment area of a single literacy campaign. This is by far the most effective arrangement, which also provides the institutional support at the field level. There are also some innovative approaches using mobile training teams of highly qualified personnel who provide orientation and short-term courses to the field literacy personnel in the environment in which the literacy work is to be done. Furthermore, some teacher training programmes now include preparation for teaching adults, as well as preparation for conventional school teaching.

Closely linked to the question of training is the preparation of literacy materials. The more successful literacy materials are those which are related to the environment in which the adult learning takes place. Innovative materials have also been developed and successfully used for distance teaching, especially by television.

Post-literacy activities – continuing education

The immediate objective of a literacy programme is to provide the participants with the basic tools of literacy and numeracy, with which they can continue their learning largely by their own effort. However, it is now well established that without organized follow-up activities, many and perhaps most adult neo-literates will soon fall back into illiteracy.

Post-literacy activities are therefore an essential extension of literacy programmes and should be planned as an integral part of a sustained, long-term effort, leading to and articulated with adult education. The essential ingredients of post-literacy activities are simple printed materials which enable neo-literates to exercise and develop their literacy and numeracy skills and which provide useful information and stimulate awareness of their immediate environment and preoccupations. Here, too, there are excellent opportunities to link post-literacy activities with other development programmes in the locality.

Since rural communities in the developing countries do not generally have reading materials for adults, rural newspapers can serve as an important element in post-literacy activities in rural areas. Radio and television programmes cna also be integrated into literacy and post-literacy activities and sometimes stimulate learner motivation quite effectively.

Chapter Nine

SCIENCE EDUCATION – TOWARDS SCIENCE FOR ALL

In bringing about a qualitative change in education and in its content, MINEDAP V accorded high priority to science education at all levels. MINEDAP V was specially concerned in its whole general approach, with giving primacy to education which reaches the greatest numbers of people; not a select few but the many – they make for qualitative change and transformation in education as in other spheres of life. MINEDAP's resolution called on the Member States to:

a) Stimulate nation-wide a 'Science for All' movement to cover the whole population, in-school and out-of-school children and youth and the adult work force;

b) Ensure access to science at all levels of education; and

c) Strengthen the training programmes and support services.

Science and technology play an increasingly important role in economic and social life and in the modernizing process in Asia and the Pacific. A basic knowledge of science is becoming indispensable in all spheres – health, nutrition, sanitation, medicine, agriculture, industry or the improvement of the environment. It is now recognized that to achieve endogenous development, gain true self-determination and sustain progress, it is not sufficient to have just an élite cadre of scientists. The whole population needs to be able to appreciate and participate in their respective ways, in the use of science and technology for meeting their basic needs as well as for national development.

However, there are gaps between the development requirements of nations and the responses of their educational and training systems. Skill development through science and technology can assist in closing these gaps and benefit vast numbers of people. Traditionally, science education has been part of the formal, institutionalized education system. The narrow focus of science education is one

of the reasons for its limited impact and is certainly a major barrier to the task of making it available in an effective way to the many groups in society who make up the out-of-school population.

There is an important job to be done to widen public acceptance of science as a tool of great potential, both personally and collectively. Positive exposure to science education should enable children at school and adults and youth outside the school system to realize how science can improve their quality of life and to appreciate the ways science contributes to national development.

The Third Regional Conference of Ministers of Education and Those Responsible for Economic Planning (Singapore, 1971) proposed a series of actions for the improvement of science education during the second United Nations Development Decade. As a result of this, considerable efforts have been made in the region to improve science education. The Second Conference of Ministers Responsible for the Application of Science and Technology to Development and Those Responsible for Economic Planning in Asia and the Pacific (Manila, 1982) stressed the importance of science and technology education in social and economic development and also recommended various measures for further strengthening science and technology education.

Science has been introduced in one form or another in primary schools in most countries since the early 1970s. There are, however, considerable shortcomings, both qualitative and quantitative. A large proportion of students have no access to science and technology education beyond the junior secondary stage. Moreover, in many countries science education at the second level continues to be academic and 'élitist', oriented towards preparation for higher education. These programmes lack contact with the world of work and relevance to the learners' environment and to social issues.

There is frequently a considerable gap between the outcomes of the learning process as envisaged by curriculum developers (the 'official' curriculum) and those achieved in the typical science classroom (the 'actual' curriculum). Whenever a gap of this nature exists, there is the likelihood of children developing a negative attitude towards science and technology, and this can have serious implications. Any child who leaves school with a negative attitude towards science represents a potential barrier to the advancement of a scientific climate in the community.

All the major efforts for the improvement of science education have been made within the context of the formal education system and mostly through curriculum renewal. This has provided science education with a powerful but restricted base. Consequently, the benefits of science education have not reached the out-of-school population, nor pupils in school who do not study science. There is, however, a nascent trend in some countries to view science education in a wider perspective and to extend its outreach by relating it directly to the basic needs of the people. There are also examples in the region where simple science materials are being used effectively in adult literacy programmes.

Broad target groups for science education on a mass base can be identified as:

Group A. the formal school population, for whom science and technology education should become an integral part of primary and secondary schooling, including those who will study science and technology in higher education;

Group B. the out-of-school population comprising:

i) out-of-school children and youth,
ii) the work force, which in many countries includes vast numbers of illiterates, and
iii) the educated adult section of the populace.

Much of the activity in science education has in the past been focused on a segment of Group A. Efforts will now have to be systematized and accelerated to extend science education to **all** in Group A and many in Group B. In MINEDAP V discussions, it was stressed that all programmes for the expansion of education should carry provision for matching expansion of science education; in universalization of primary education special attention should be given to 'the improvement of science teaching at the primary level to meet the basic needs of community and rural development'.

Each target group needs a basic scientific education relevant to its situation, which includes indispensably the acquisition of positive attitudes towards science and learning the scientific way of thinking. The nature and scope of science and technology education on a mass base will necessarily be different for each target group. Target Group B (iii), for instance, needs an appreciation of the potential of science, because of the target group's influence on decision-making in society and in providing a climate of opinion about science and technology.

Within-group differences will need to be given particular consideration in the case of target Group B (ii), since the needs of agricultural workers, industrial workers, farmers, managers, and those in commerce and the service industries are clearly different. Considerable attention will also have to be given to the minimum content, skills and attitudes required for each group, as well as the appropriate delivery system for the out-of-school target groups. In adult literacy programmes, reading and learning materials with appropriate science content needs to be developed and introduced from the very beginning, and carried through in suitably strengthened form into continuation education programmes.

Science for all

Traditionally, the content of science education has been drawn from within science itself, rather than from the needs of society for science. Even science curricula that include social issues and work experience still emphasize conceptual and theoretical knowledge. For many students, this has little relevance outside school in their daily lives.

The content of 'science for all' is selected for its relevance to the needs and interests of the different target groups. It draws freely on all of those aspects of knowledge that come from the work of scientists, including the immense variety of applications of this knowledge that have been or could be made. For example, health, nutrition, sanitation, family planning, environment, resource development and utilization, are all familiar areas in which scientific knowledge and its application have improved the quality of life of the citizens. Technology and its responsible use is a part of this concept of science education. 'Science for all' is a move from an elitist science education for a few to a mass science education meant for all.

The concept of 'science for all', particularly in the context of the formal school system, has to be conceived as an essential and core component of general education at the primary and secondary levels. The content of science courses should not only relate to real-life applications but also provide a suitable base for those students (the minority) who intend to specialize later. This means that many 'academic' topics traditionally taught in primary and particularly secondary schools need not be included in such science courses and can be appropriately deferred to a later stage. In the science stream at the upper secondary level, the programme should naturally lead on to further studies in science and technology at the post-secondary level.

In the non-formal sector, science education might cover traditional craft practices in villages and technology crafts (such as weaving or smelting) and support nutrition, health, sanitation, 'clean' water. It could, for example, help learners understand the need for a balanced diet, for hygiene in personal living, and the scientific basis for many local practices, such as herbal remedies for certain diseases, agricultural techniques and traditional technology for the making of tools.

Special infrastructures for the delivery of 'science for all' to the out-of-school sector are generally not available. The schools can be an important mechanism for out-of-school science education, if the teachers and students carry out science 'extension' work in their communities and the schools themselves function as community learning centres. Such linkage of the school and the community proceeds on the basis of the community being actively involved in identifying on the one hand the needs and on the other hand the resources, human and material, which are to be mobilized to meet those needs.

A variety of delivery systems have been developed in the region. In some countries, 'science for all' is incorporated within the national development programme. The strategy aims at encouraging an understanding of science and technology in economic development and their application to every day life, the acquisition of technical skills, and the development of indigenous industrial technology. In other countries, the approach is more localized, with loosely structured community-based projects involving people in farming and fishing villages, and other specific groups. Pilot projects concerning health, nutrition and sanitation, with schools as centres for science and technology education for their communities, are being carried out in several countries of the region.

The infrastructure for science education in schools is more developed. Provision is often made for professional support services and the dissemination of materials to teachers. In many countries, science curriculum development centres and science teacher resource centres have been established for this purpose. However, their capacity for R&D and for innovation needs to be further strengthened.

The pre-service training of science teachers does not always match the demands of new curricula in terms of the needed teacher competences. More attention will need to be given to establishing closer links between curriculum development efforts and pre-service

training programmes. The programmes for in-service education of science teachers, in a number of countries have common features which offer possibilities for co-operative action and mutual support. These include programmes for upgrading untrained teachers, enriching the knowledge and skills of trained teachers, and for meeting the special needs of curriculum developers. Co-operation among countries could facilitate the flow of experience and expertise for mutual benefit. The inter-country co-operative exchange was specially emphasized by MINEDAP V and was accorded high priority in the development for regional programmes of UNESCO.

Chapter Ten

EDUCATION AND THE WORLD OF WORK

MINEDAP V's discussions showed a deep concern over the disjunction between education and the world of work which is seen so pervasively in the education systems of the region. This has the effect of making the educational processes too abstract and the educational products devoid of work skills and work understandings. The Conference viewed education and work interface as a cutting edge of a fundamental educational transformation that would also strengthen the links between education modernization and national economic development. Technological and vocational education will then be based on a wide foundation of general education of which education in work skills and technological literacy are integral elements. Furthermore the technological and vocational education would be geared to the advancements in technology.

The link between education and the world of work is a fundamental dimension of the relationship between education and society. The role of education in preparing children and youth for life is becoming much more complex, with rapid social changes affecting the the world of work, especially with the application of modern technology, and the 'revolution of rising expectations' fueled by industrialization and the mass media. On the other hand, education has developed into a 'system' in which the constituent units, the schools, have their own organizational patterns tending to isolate them from life outside the system's confines.

In the national programmes of educational reform and reorganization in several countries, important consideration is being given to linking education and work. This has arisen out of a concern extensively felt that schooling has tended to make the educational process abstract, 'bookish', divorcing it from the needs, interests and problems of real life, and that a hiatus is created between the world of work and the world of learning, which are otherwise essential parts

of a seamless web. More often than not, education has contributed to the creation of negative attitudes to manual work and labour. This concern has been further deepened by the increasing rate of unemployment among school leavers, particularly at the secondary level. When jobs are available, the criticism is made that young people leave school unequipped to meet the minimum requirements of work in their society.

The interface of education and the world of work has three important aspects. First, practical activities involving work should be an integral part of the learning process. Education divorced from application is self-stultifying; combining theory and practice is a fundamental principle of good education aimed at the all-round development of the human personality. The applications of this principle cover a wide range of educational practice, from work in school laboratories to participation in community development projects. For example, in Japanese schools, work experience in one form aims at 'stimulating school inventiveness'. While in India, the guidelines for 'socially useful productive work' stress that 'manual work becomes purposeful when it meets educational requirements'.

The second aspect is that participation in work strengthens and develops certain social attitudes and values which are desirable in themselves and essential for society. Many countries in the region have work experience programmes which provide opportunities for pupils to work in community development projects, on farms, with enterprises, and thus to gain practical insights into production processes. Among the positive attitudes which such programmes aim to create are respect for manual labour, a sense of social identification and participation in national development.

In the developing countries of the region, the desired attitudinal changes towards the dignity of work inspire most of the existing work experience programmes. Thus the 'skills education' programme of Indonesia emphasizes 'the development of positive attitudes towards practical work'; in Sri Lanka, work-based subjects introduced in the curriculum aim at 'inculcating in the children favourable attitudes towards the dignity of labour'.

The third aspect of the education and work interface is education's responsibility for preparing pupils for 'working life'. This concept is wider than the notion of preparation for an occupation. It seeks to relate educational activities and processes more closely to the world of work which the pupils will enter and to endow them with the habits, work styles, understandings and practical operational

skills which will ease their transition to the world of work. A very important element of this preparation for working life is the integration of vocational experiences into general education. In China, productive labour is a part of the general curriculum and in Indonesia, programmes have been introduced in general secondary schools to equip all pupils with basic practical skills before they join the work force. In Pakistan, the integration of general and vocational/technical education aims to prepare secondary school students for gainful employment, including self-employment. All students in the Philippines are required to take vocational courses at secondary level. In the Republic of Korea, vocational subjects are a part of general education for all students at secondary level. Every student in upper secondary grades in Thailand must take one of the vocational courses.

There is now a consensus based on experience that the education and work interface should start from the earliest years of education at the primary level and should continue through the total education career. However, the forms and purposes of the education and work vary considerably according to each level of education.

Primary education covers the formative period during which, with due regard for the physical and intellectual development of the child, the foundations should be laid for the development of basic work habits and work values.

The importance of work-and-skills experiences in appropriate forms in primary education is not sufficiently realized generally. In the developing countries, a very substantial proportion of pupils leave school before or at the end of the primary cycle, and enter the world of work, mainly in family occupations. Only if their education is linked to practical work would they be helped in their early transition to work, with some skills and awareness of the importance of work for the well-being of the community. Primary education should also instil motivation for further education and training so that school-leavers will use the further training opportunities provided for out-of-school youth. Furthermore, work experience education is also desirable as an educational aim in its own right for the personal development of the pupil; it makes possible wider use of active methods of teaching.

The most critical period in preparing the young for the world of work occurs during ***secondary education.*** This is recognized in the policies of many countries in the region which favour the 'vocationalization' of secondary education. While the link of education to work

does not rest on the assumption that it will serve to stem the rush of secondary school-leavers to higher education, there is evidence to suggest that it does have that effect to the extent that secondary education provides 'employable skills'.

The models of an earlier era which shaped the secondary education systems of the developing countries in the region assumed a dichotomy between vocational/technical education and academic education. This has had the effect of divorcing general studies from work experience, and relegating vocational education to lower status and esteem. The problem has been further aggravated by the massive increase in enrolments during recent years in most countries. Consequently, governments are developing arrangements to enable students to combine general studies with training in some specific vocational and technical skills and periods of work experience taken in a block of time or spread over different terms. The important point clearly is to ensure a basic vocational education which is wider than vocational training, focused on a technology or trade, in combination with general education. The stress should be on clusters of polyvalent skills, rather than specific occupations.

At the ***higher education*** level, the gap between the world of learning and the world of work has been slow to narrow in this region. There are, however, an increasing number of initiatives at institutional level by which higher education is brought closer to the world of work.

In Pakistan, for example, pilot projects have been started in two provinces where general universities, agricultural universities and engineering universities have jointly launched a project in which the students are required to go to rural areas to study local problems as a part of their course requirements. The scheme is operated by the Centre for the Application of Science and Technology for Rural Areas (CASTRA). A project in India seeks to mobilize science and technology through the joint efforts of universities and other organizations for solving the problems of social and economic development in a given area. The Centre of Research for Development (CORD), now functioning at the University of Kashmir, is an example. The University of the East in Manila is operating community-oriented programmes in nursing, medicine, health, nutrition, business and teacher education. The programmes are based on a perception of high social priority for education and recognition of education's impact on socio-economic development in advancing the quality of life.

Non-formal education programmes, whose numbers continue to grow in all countries of the region, have shown much potential for linking education and work. 'Part study and part work' programmes making use of distance education techniques are well established in Burma, China, Lao People's Democratic Republic and Socialist Republic of Viet Nam; they are also spreading rapidly in several other countries.

Both formal and non-formal education programmes can contribute directly to agricultural productivity and generally to rural development and transformation. Training in improved agricultural skills and methods should be emphasized to enable the agriculture sector to be more productive. Attention should also be given to education and work experience for more effective farm management and marketing and in the running of co-operatives.

Rural communities in the developing countries are no longer isolated from modernization; their 'world' is also evolving due to the introduction of improved seeds, new fertilizers and agricultural machinery, new types of health care and medicines, new transportation and communication systems and the mass media. To a greater extent than is realized, new jobs are being created and age-old occupations are becoming obsolete, compelling the rural communities to adapt to new practices and new types of work. In designing education and work programmes for rural areas, educators will need to analyse these changes carefully and anticipate future developments.

The linking of education and work, with the emphasis on more effective preparation of young people for working life, requires a major change in the structures and processes of the education systems as they are to be found in the developing region.

The first important consideration is that programmes intended to give young people mastery of one or more practical skills will gain acceptance if the skills are perceived by the target population as productive and socially useful.

Where vocational skills are integrated with general studies, the selection of the skills and the timing of their introduction call for special consideration. Studies and measures are needed in order to ensure a closer match between the skills that employers need and those that education and training provide.

Programmes of education and work should be closely related to all other development programmes in the community, such as health, agriculture, rural development and technological development. In

industrial areas, collaboration is essential with factories, other enterprises, and with workers' and employers' organizations.

The teachers' role is crucial in these programmes. Generally, teachers are not recruited with first-hand experience of the world of work, nor does their professional training contribute to it. How can teachers be acquainted with working life outside the education sector? How can countries overcome the general resistance to recruiting into the teaching force people with the skills and experience of production, commerce or rural development? These issues are bound up with the strategies that may be adopted in linking education and the world of work.

Technical and vocational education in national development

In the period 1970–1981, enrolments in vocational and technical education at the second level increased from around 5.6 million to 6.6 million in the countries of Asia and the Pacific. However, as observed in Chapter Four, the proportion of students enrolled in technical and vocational education remains quite small in most countries, far below the 30 per cent target of the Asian Model.

In recent years, progress has been made in many countries in improving technical and vocational education to meet skilled manpower needs through more realistic planning, taking into consideration the socio-economic needs of the countries. Some have established policy bodies or institutions focusing specifically on technical and vocational education. India, for example, has a Council for Technical Education; Pakistan has a 'technical education committee' of the National Education Council; Singapore has established a Vocational Industrial Training Board; Australia has a system of joint advisory committees at the State level; and New Zealand has a Vocational Training Council. These bodies are inter-ministerial in composition and also include representatives of industry, commerce and agriculture.

At the implementation level, too, there has been significant progress. A prominent feature is the restructuring of the delivery system to establish closer links between technical and vocational education and industrial, agricultural and service agencies within the community. This has contributed to making the courses and activities more flexible, practical and relevant to perceived socio-economic and manpower needs.

These trends are supported by a variety of improvements within the delivery system itself. Theory and practice are being progressively integrated; short and optional courses are appearing in many institutions; mass media and non-formal modes are being increasingly used; and community-based, multi-purpose institutions are being established, especially in support of rural development. Modular approaches, credit systems, multi-point entry mechanisms, and greater autonomy for institutions to react to local needs especially of disadvantaged populations, have been initiated in several countries.

A three-tiered structure for the delivery of technical and vocational education is common in most countries. The first tier (certificate level) provides technical and vocational education of one to two years' duration. The entry requirement is generally the completion of primary and lower secondary levels of education, e.g., 6 to 9 years of schooling. The second tier offers diploma courses at technician level of two to three years duration. The entry requirement is, generally, successful completion of secondary education. The third tier offers degree courses for prospective engineers and technologists.

These three broad levels are being elaborated and extended in many countries to meet varying socio-economic requirements, through introduction of part-time courses for personnel in service, distance learning modes, intensive and short courses for working personnel to extend existing skills or to prepare for alternative occupations. The terminal characters of the various offerings at certificate and diploma levels are also being changed to provide for greater horizontal and vertical mobility.

Curriculum development in technical and vocational education is changing in response to advances in technology. Modular curricula, structured practical work manuals and sequential learning packages and test item banks, have been developed in several countries. Of these quality improvements, the most prominent are the variety of teaching/learning modules that are being developed or are already in use. Modular approaches have also helped to some extent in meeting the shortfalls in teacher or instructor competencies.

There has also been improvement in the area of learner evaluation. A clear movement into various types of criterion-referenced evaluation, based upon criteria required by specific occupations in job situations, is a marked feature in several countries. The job and task analyses done in the design and preparation of curricula and the introduction of modular learning sequences have assisted in this

movement. Furthermore, there is increasing awareness in the countries of the need to readapt/reorient technical and vocational education content to the rapidly changing world of work and to emerging occupations.

While the importance of competent technical teachers for technical and vocational education is recognized, most of the developing countries are experiencing severe shortages of technical teachers. In some countries, the schools are turning to the work-place to recruit skilled workers as part-time instructors. In a few countries, technical teachers are seconded to an industry or business work-place every three to five years to update their knowledge and skills.

Thus, the current picture of technical and vocational education in the region is one of progress and potential, as well as challenging problems. Among the more promising developments are,

- Technical institutions in rural areas in several countries are beginning to play a significant role in integrated rural development programmes;
- Increasing attention is being given to providing industrial experiences to technical students through co-operative efforts of the government, training institutions and industry;
- Production centres are being established in selected technical institutions, with multiple objectives of providing on-the-job training to technical students, of augmenting the resources of the institutions, and of enabling staff to be proficient in current industrial practices.

But there are also persistent problems,

- Technical and vocational education is not adequately in tune with the world of work, as reflected in the increasing rate of unemployed graduates, on the one hand, and shortages of middle-level technical manpower, on the other;
- The training and supply of technical manpower for the technological sector is not sufficiently in line with the advancements in technology;
- The planning mechanisms for technical and vocational education still need considerable strengthening in respect to manpower planning, articulating different levels and types of technical education and training in relation to changing technologies and the world of work, and to co-ordination of general education and technical education;

- Technical and vocational education and training systems need to co-operate with industrial and agricultural enterprises in all aspects of programme planning, instructional training, vocational guidance, etc.;
- The effectiveness of technical and vocational education and training systems needs to be enhanced in terms of curriculum planning and development, preparation of teachers and use of new instructional technologies and evaluation techniques;
- The capacity of technical and vocational education programmes, 'tracks', and institutions is still very inadequate in many countries.

MINEDAP V in the deliberations pinpointed a central weakness of technical and vocational education and recommended special efforts 'to keep pace with structural and technological changes'. This offers a fertile ground for inter-country co-operation in the region with its immensely varied experiences, ranging from countries with the highest levels of technological development to others which are set on the course of rapid modernization.

Chapter Eleven

HIGHER EDUCATION AND NATIONAL DEVELOPMENT

MINEDAP V viewed higher education as a sector of crucial importance in the overall development of the countries. In the developing countries, the relevance of its contribution to national development transcends the narrow notion of only preparing persons for the current and anticipated labour market. There is the other dimension of higher education as the 'generator and preserver' of the intellectual and cultural resources of a country and as a medium which sustains the flow of knowledge, technology, inventiveness. The Conference was keenly aware that higher education in the developing countries of the region is going through a phase in which the tensions of polarities are constantly in evidence: democratization and rigorous selectivity; pursuit of excellence and erosion of quality through expanding numbers; unemployed university graduates and various shortages of higher skilled manpower; cost and efficiency. MINEDAP V in its recommendation stressed the need for concerted intellectual actions among the countries and active exchange of experiences, ideas and information.

Given the vastness of the region, its long history, and the diversity of its socio-cultural context, wide variations are to be expected in the systems of higher education. The industrialized countries, each with a relatively stable political system, have a long tradition of organized higher education. Other countries, with long-established cultural and educational traditions, are attempting to adapt higher education to the exigencies of modernization and socio-economic development. There are also some countries which are in the process of building their higher education systems from the ground up. In all countries attempts are being made to broaden access to higher education to ensure equity and social justice.

The systems of higher education found in the region are largely patterned on the models of industrialized countries. By and large, the administrative structures, the organization of curriculum, the

instructional methods and materials, and the standards used to judge performance continue to be extensively influenced by these models, perhaps more so in the countries with a colonial past. Nevertheless, a shift from these patterns and practices is in evidence, and efforts are under way in many countries to redress the systems so as to adapt them to development and cultural needs and aspirations. New national policies on higher education are emerging.

Problems of higher education. The main challenge for most countries in the coming years will be how to cope with the escalating numbers of students at the tertiary level. With the increase in numbers, the demographic and social composition of the campuses has diversified. In several countries, the rate of expansion outstripped the resources (teachers, classrooms) needed to maintain the system in dynamic equilibrium, despite the fact that higher education has been appropriating a very large share of financial resources of the education sector.

The problem is complicated by two other factors. First, in the developing countries, the progress of structural diversification has been very slow, and much of higher education is concentrated in the universities. Other post-secondary institutions offering diverse educational opportunities through short-cycle studies have not grown on an extensive scale and account for a relatively small percentage of third-level enrolments. The second factor is that the bulk of the increase in university enrolments has taken place in the arts and humanities, resulting in a surplus of these graduates, in terms of demands from the labour market, as reflected in the unemployment figures in many countries.

In the climacteric stage through which higher education is passing in the developing countries, there has been considerable debate on the roles that the institutions of higher education, and in particular the universities, should play in developing societies. Four distinct roles are generally ascribed — the creation of knowledge through research, the dissemination of knowledge, the training of high-level specialists, and service to the community at large. Although these roles are generally accepted, the last decade has witnessed a reassessment of the relative emphasis to be given to them. In many places, for example, it has been considered that the enormous potential of universities to contribute to national development has not been fully realized. As the repositories of the cultural and intellectual creativity of each society, the institutions of higher education must be a major source of development stimulus, not just

in terms of the knowledge produced and disseminated, but in terms of instilling leadership qualities in those who will guide the society of tomorrow.

In many respects, the expansion of higher education introduces a philosophy counter to that underlying the traditional role of producing a small 'élite' to provide intellectual leadership to the community at large. In contrast, the widespread availability of higher education, by its very nature, helps a society and its people to democratize the nation-building processes. A proper balance among the possible roles and roles and functions of higher education needs to be identified and incorporated explicitly into policy statements.

Democratization of access. Despite the rate of expansion, different population groups have different levels of access to higher education. Inequalities may arise because of race, sex, age, socio-economic background, culturally biased entrance examinations, or geographical locations.

Statistics show a striking disparity in the participation rate of women in higher education in most countries of the region. Despite an appreciable rise in women's enrolment in the recent past, their participation rate is still low. Another observable phenomenon is that in certain fields of study, such as engineering and law, women are so few in number that their enrolment figures in some cases are neligible.

The geographical location of higher education institutions is another source of imbalance, with the universities concentrated in big urban centres or in the more developed areas.

Higher education policy in a number of countries stressed narrowing the gap between the educational opportunities of the rich and those of the poor, and among the various regions and groups of people, through a more equitable distribution of resources and facilities and through an increased focus on quality and relevance of programmes. With a view to narrowing the urban-rural gap, Sri Lanka introduced a new scheme in 1979–1980 to help the rural students to gain admission to university at a lower cut-off point than students from urban schools. Thailand has adopted a policy of 'regionalizing' the universities by locating them in different regions of the country. The University of the Philippines System has located its specialized campuses strategically throughout the country. Apart from normal teaching and research, they also try to meet the specific needs of the region and serve as models for the relatively weaker institutions to follow. The regional universities in Indonesia have a similar policy.

There have been other responses as well. One that has been adopted in a number of countries is that of establishing open university structures, using distance teaching modes. Australia and New Zealand have had distance education systems for quite some time; in recent years China, Japan, Pakistan, Sri Lanka and Thailand have set up open universities. Distance teaching, especially in the context of an open university, is likely to be an increasingly important means to widen access to higher education. The rapid advancement of communication technology will no doubt provide further support to the versatility of distance education.

Enhancing quality and relevance of higher education. The central concern in many statements at MINEDAP V was the quality of higher education and its relevance to national development. The very fast growth in student enrolment and the number of institutions, without a corresponding provision of physical facilities and qualified teaching staff, has put most systems of higher education under heavy strain. Drop-out from courses, high rate of failure in examinations, the unusually long time taken by many students to finish a given course of study, and growing unemployment and underemployment among university graduates, are some of the manifestations of the problem.

This concern for 'equity' and 'quality' is reflected in several policy documents on higher education. The Five-Year Philippine Development Plan (1983–1987), for example, stresses the twin goals of higher education: democratization of access and maintenance of quality. In order to ensure both quality and equity, new criteria for student admission have been introduced.

The earlier imported curricula of higher education systems in the region have undergone changes in the last two decades, but innovations have been slow, unplanned and haphazard, in contrast to the increased organization and institutionalization of curriculum development in school education. The slow response of higher education institutions to curricular changes is due to a variety of reasons. The sheer inertia of established systems is apparent. Another reason lies in the traditional structures of a university as found in most of the developing countries, which are based on rigid and sharply drawn divisions of the various disciplines; curriculum changes arise from the growth of knowledge along the boundaries where two or more disciplines meet.

In many countries, the question of quality of higher education is being examined in terms of the supply and quality of teachers, as

well as the general methods involved in the teaching/learning process. Where high levels of knowledge are needed, higher education should have a due share of the supply of able and talented people. Unless the teaching force is renewed by talented new entrants, it will stagnate. There is widespread concern in many countries that higher education institutions have not been able to set this renewal process in motion because of the competing demand for talent from the fast expanding government apparatus and the industrial and modern sector. To do so calls for a systematic policy of staff recruitment and staff development, which may require closer co-ordination and joint action among higher education institutions.

A related issue is that of in-service staff development to enable all staff to keep abreast of new developments in their fields. Some countries (for example, Indonesia, Malaysia and Pakistan) have introduced programmes for training university teachers and have established specific institutions for this purpose. The National Academy for Higher Education in Pakistan has initiated a four-month training course which all beginning university teachers are required to take. In Malaysia, the Teaching/Learning Advisory Unit at the Universiti Sains Malaysia renders advice and support to the teaching staff of the university. Similar initiatives for professional development of university teachers are now taking place in other countries of the region.

Medium of instruction. Several countries which used foreign languages as the medium of instruction now use their national languages in the universities and other tertiary institutions. The transition has not been without difficulty. There has been a lack of trained teachers capable of using a national language and a lack of library and teaching materials in those languages. The very task of writing textbooks and translating journals and other scholarly works is stupendous. It calls for resources which are not always within the means of many of these systems. Although vigorous efforts are being made to cope with these problems, higher education institutions will continue to struggle with them for years to come. The difficulties of transition should not, however, overshadow the contribution that higher education in the national languages can make to a more endogenous development, based on criteria of self-reliance and national cultural identity.

Organization and management. The problem of management of higher education is undoubtedly one of pressing urgency; indeed, in several countries in the region, one may refer to it without overstatement as a 'crisis of management'. Universities and other tertiary

institutions following their 'model' have grown up in the tradition of 'universities are never planned or managed'. Times have changed, and there is growing public demand for accountability, for greater efficiency and for evidence of the contribution of higher education to development.

Management of increasingly scarce resources is at the core of higher education administration, both at institutional and systems levels. Higher education is highly resource-intensive, and in the developing countries it faces severe competition for scarce resources from other levels of education as well as other sectors of the national economy. The planning and management of higher education is therefore receiving much closer attention by the government authorities in recent years. As a result, many of the countries have adopted specific policies and measures to increase the efficiency of the system.

Internal efficiency has to be clearly defined in higher education institutions. The use of human and physical resources in the costly endeavour of higher education has to be rational, economical, effective and productive as reflected in the better use of buildings, laboratories, equipment, libraries, residential and recreational facilities. There is also a considerable proliferation of specializations in which the unit costs are extremely high; these could be concentrated in fewer institutions in the country and become more economical.

By tradition, universities are characterized by 'collegiate management' systems, where semi-autonomous organs of the administration look after their own domain. Internally, there has been a proliferation of bodies and offices for co-ordination. There is certainly a need for innovative management systems in many institutions, and the managers and other administrators need pre- and in-service training for their jobs. Modern management techniques have much to offer to the management of institutions struggling to cope with large numbers of students and to offer a great variety of courses. More systematic methods for accreditation of universities and other institutions of higher education are also needed to maintain and improve standards.

Training, research and development. Universities are expected to prepare people with a broad range of skills and versatility. This has been the established concept in the tradition of liberal education. However, the development processes are bringing to the fore new tasks and training requirements. Higher education in the developing countries of the region has been responding to these new training needs in varying ways.

One response is the establishment of separate professional institutions to meet specific clusters of needs; such as in the fields of medicine, engineering and new specialities. This often entails the upupgrading of these institutions to university status as degree-awarding institutions. Another development is evident in the new training structures within the framework of universities; institutes or centres draw on the various disciplines of the university to provide a broad interdisciplinary base for training. This arrangement makes possible a better integration of research and training within a single university. By and large, these developments concern the training of professional and managerial personnel. In very few countries are middle-level technicians trained at third-level institutions. The exception is to be found in agricultural universities and institutes, which have generally developed strong outreach activities in agricultural training and rural development.

Yet another new aspect of training is the provision of upgrading and retraining of personnel through 'part-study part-work' programmes or short-cycle courses. The involvement of the universities (again, with the exception of agriculture universities) has so far been marginal in the region. Retraining is an area in which the university's contribution to development could profitably be much enhanced in the coming year.

A basic function of institutions of higher education, more specifically the universities, is the creation of new knowledge through research. Implicitly or explicitly, higher education institutions are expected to serve as 'brain trusts' and 'think tanks' for their respective societies in undertaking research, training research workers, and disseminating outcomes for the development of the society. In a university, research is done broadly at three levels – by graduate students for the fulfilment of their degree requirements, by individual scholars for fundamental knowledge and discovery, and by teams of researchers working together on a project.

University-based research in most of the developing countries in the region has not advanced as far nor contributed as much as was expected. Many factors have prevented the advance: for example, excessive emphasis on the undergraduate programme, heavy teaching loads for the researchers, lack of financial support, and paucity of libraries, laboratories and other facilities.

There are two evident trends in the development of research infrastructures. In some countries such development is taking place

mainly outside the universities in public and private institutions devoted to specific problems or areas of specialization, with a strong 'applied' bias. Among the developing countries, India and China illustrate this trend. In other countries, such as Japan, university-based research is in the lead. In 1982, of 393,000 researchers in Japan, 163,000 (more than 40 per cent) worked in universities with a total research budget of about US $6 billion. Another indication of this second trend, significant both for research in the universities and for higher education generally, is the setting up of 'centres of excellence' or 'key institutes' or 'consortia of institutions' within the university framework, for example, in China, Indonesia and Pakistan.

The research community in many higher education institutions accepts the premise that endogenous national development requires solutions to the specific problems facing a particular country. Research into these problems should build on the efforts of the international research community at large, so access to previous research results is important. What has tended to happen in many developing countries of the region is that research paradigms and approaches have been copied from industrialized countries rather than being adapted to the specific needs of a given context. Distortions in the development of research capabilities have also resulted from contracted research undertaken by international bodies and donor agencies in which the designs and methodologies are set externally. The development of a scientific and technological culture and the renewal of national human culture are complementary tasks of higher education institutions.

A major barrier hindering good quality research in the region is lack of access to information and new developments in knowledge. Dissemination is presently accomplished in conventional and expensive ways, although some countries have accepted that great benefits can be derived by adopting new technologies. Promising beginnings are being made: Malaysia, for example, has linked the university libraries through a computer network, and Indonesia is preparing for the use of satellites. The technological basis already exists to initiate a research information network which could serve the Asia and Pacific region as a whole.

In order to promote the university's role in fundamental and applied research, clear research policy needs to be formulated in the countries, in consultation with various organizations and private enterprises involved in research. Bilateral and multilateral co-operation for research and training has expanded in recent years, but

could be further strengthened. Greater inter-institutional co-operation within countries has started to emerge. A national research policy is needed to co-ordinate these efforts and establish priorities in the context of national development needs.

An important part of the role of higher education in national development is the improvement of the education system itself. Being at the apex of the education system and representing a unique concentration of highly qualified staff, its major contribution to other levels of education lies in the training of educational personnel and research.

Through research, institutions of higher education can provide a crucial service to the education system. Research in the educational sciences forms the foundation of education as a body of knowledge, and is an important source of educational renewal. It is interdisciplinary in nature, and has its origin in the confluence of different disciplines, notably, psychology, sociology, anthropology, economics, management sciences and communication sciences. The university is uniquely well situated to undertake such research and to evaluate the performance of education systems.

The output of research in other disciplines may also have a bearing on education and training. Work in the fields of sociology, anthropology, linguistics and psychology, for example, complements research in education to seek solutions to such problems as repetition, drop-out, linguistic development, class organization and school management. Relevant results from these endeavours can guide overall policies, as well as the daily operation of the education system.

In recent years, considerable educational research and development activities have taken place in the region. Operational research is being done in curriculum development centres, newly established education technology centres and in faculties and schools of education in universities. Such research and development is indispensable and should continue to grow in strength and range.

Part Four

ACTION FOR EDUCATIONAL DEVELOPMENT: WAYS AND MEANS

Chapter Twelve

EDUCATIONAL PLANNING AND MANAGEMENT

The debates in MINEDAP V brought into sharp focus the deep concerns in the countries for educational reform and renewal. More and more, educational development is seen as inseparably linked to educational reform. The goals and priorities identified by MINEDAP V and discussed here in Part Three are essential elements in all the national policies for educational development, and necessarily underlie the purposes of educational reforms also. The important concern is how these plans are translated into action and realized in what the learners learn, how many, where and how – which in education is the ultimate test of all overarching reform and plans. MINEDAP V was deeply aware that the implementation of educational reform or development plans, specially those which involve qualitative change or redirection, has suffered from quite severe shortfalls. MINEDAP V therefore identified three crucially important areas where action will strengthen the capacities for implementation, namely: educational planning and management, the preparation and training of educational personnel, and research, experimentation and innovation. In each of these areas, MINEDAP V made a set of recommendations addressed to the Member States and to UNESCO which are focused on quite concrete and practical measures.

Educational planning is now well-established in the machinery of government in most countries of the region. Whereas initially it focused on quantitative aspects of education, it has gradually broadened to encompass features of a more qualitative nature. It has, however, remained a fairly centralized activity undertaken mostly by the education and planning authorities at the seat of the national government.

There is increasing recognition of the need to view the planning of education in a long-term perspective closely linked to human

resources development requirements. Many countries of the region have accordingly set up review committees or commissions for assessing educational policies and plans in this perspective.

Another emerging trend is the decentralization of educational development programmes through increased micro-level planning. This is attempted by transferring some responsibilities from the national to regional, sub-regional, and community-level authorities, with a view to developing micro-level educational plans focused specifically on the needs and aspirations of local target groups. One aspect of this trend is the current interest in participatory planning. In several countries, the community, school officials, teachers and development agencies at the local level are actively involved in the planning process, and this is now considered indispensable for effective and relevant planning, as well as for the implementation of educational development programmes.

Decentralization, micro-level planning, participatory planning – all require effective communication between planning and operational processes. Educational planners in many countries are now increasingly concerned with the problems of communication and of evaluation on which effective implementation of the plans depends. As a consequence of these trends, in-service training programmes are being strengthened to prepare field practitioners in needs-oriented educational planning techniques.

Another notable feature of planning in the region in recent years has been the focus on programming the development of certain specific priority areas, such as the universalization of primary education, adult literacy, vocationalization of secondary education, linkage of education and the world of work, harmonizing formal and non-formal education, and orienting education towards community development in rural areas. Educational authorities are also diversifying educational planning to include the preparation of programmes aimed at the specific needs of priority target groups. This has served to strengthen the linkage between plan formulation and plan implementation.

Management and plan implementation

A pressing need generally felt in the region is the improvement of implementation capacities in order to fulfil the targets of educational plans within the available resources. The shortfalls that seem so endemic in the implementation of educational reform or

development plans would seem to suggest some structural weakness in the organization and administration of education. There is considerable evidence to support the inference. The structural weakness may well be in the fact that education administrators were slow to develop the expertise in the new areas which educational planning has opened, both at the macro and the micro levels.

This concern is reflected in various structural reforms, particularly those aiming to decentralize responsibility for educational planning and management to intermediate and local levels. These reforms usually involve the introduction of new approaches to administrative supervision, including self-evaluation techniques, a reduced ratio of administrative personnel to teaching personnel, and post-auditing of operations and accounts at the central level. This, in turn, has necessitated the preparation of new directives and guidelines, as well as the organization of training and orientation activities for administrative personnel at all levels.

Another related factor underlying experimentation with new managerial techniques is the concern, shared by all countries in the region, to improve the efficiency of educational institutions and the entire education system in order to make the best use of the limited resources available. In several countries, increasing social demand for education at all levels, combined with the escalation of unit costs, has obliged governments to seek to improve the cost-effectiveness of educational expenditure and to look for additional funding sources to maintain and develop the system. Both responses require effective management techniques.

The importance of appropriate management information systems to meet the needs of educational management and planning has to receive increased attention. Some of the countries of the region are introducing modern management information systems, which cover not only the requirements of planning and school mapping, but also provide for improve monitoring and evaluation in relation to both qualitative and quantitative objectives. The need for the development of appropriate data collection, processing and retrieval, with the associated problems of communication, flow of information, and utilization of data in decision-making processes and planning is making itself felt in the working of educational administrators.

In view of the increasing complexity in managing and monitoring large-scale education systems, there is a growing demand for educational management analysts who combine knowledge of

educational processes with skills in modern management techniques. This need is illustrative of the rapid multiplication of educational specialities. The traditional corps of teachers and school principals are now assisted by a variety of educational specialists and technicians, which underlines the need for management training for diverse cadres of personnel in education. Emphasizing the urgent need for such training, MINEDAP V also stressed its multi-sectoral nature.

The past decade witnessed the emergence and development of training institutions at national and sub-national levels for in-service training of educational planners and administrators. The number of such institutions has more than doubled since 1978. Furthermore, pre-service university diploma and degree programmes in educational administration are steadily increasing. These are encouraging trends, but the rate at which the cadres are inducted into the administrative system is not fast enough to make a qualitative change visible.

Educational facilities

With physical facilities (school buildings, equipment) consuming between 10–15 per cent of annual development expenditures on education, the planning and management of these investments is a major responsibility.

In recent years, several countries have adopted programmes for the improvement and expansion of primary school buildings. Local communities and civic bodies have played an important role to providing school facilities in materials, labour or cash. In Bangladesh, Burma, and the Philippines, for example, large-scale programmes have been adopted to bring the physical facilities at large numbers of primary schools up to a common, educationally acceptable standard. These programmes use a multipronged approach: existing buildings are either repaired or demolished; new classrooms and specialized spaces are built to eliminate overcrowding; fresh water and sanitary facilities are installed; and school gardens and orchards are planted. In other countries, programmes have been implemented to use existing facilities in other ways. In Australia, China and Thailand, for example, school buildings for which there is not an adequate supply of students are being used as pre-schools or as educational resource centres.

Community use of school facilities has also increased over the past decade, although not nearly as extensively as could be. The Maldives presents perhaps the best example in the region of community use of school buildings. There, all kinds of community activities,

including adult education, festivals, film shows and local theatre take place in the local school. In Thailand, very extensive use is made of school buildings for non-formal work-oriented programmes.

The development of school facilities is receiving more attention now, and a number of important trends are observable in recent years, notably.

- In many countries standards and designs are being developed for new buildings which are adapted specifically to national educational needs;
- Economical standards of area per student place, for different types of facilities, are being determined and adopted;
- Policies have been adopted to ensure school buildings designed to resist climatic hazards such as cyclones;
- Attempts are made to capitalize on appropriate technology already available in some of the traditional construction techniques in order to reduce cost.

A final issue in regard to educational facilities is the maintenance of school buildings and facilities, but the importance of this issue does not seem to be widely recognized. While some countries do have policies to ensure that adequate materials and resources are made available to keep schools in good repair, most countries are allowing their facilities to deteriorate, probably mainly because building maintenance costs are given low priority for scarce funds. Over the coming decade, this neglect could require an even greater expenditure through the replacement of facilities, than would have been required to maintain them properly.

Chapter Thirteen

PREPARATION AND TRAINING OF EDUCATIONAL PERSONNEL: NEW ROLES, NEW NEEDS

Two development trends which have marked the growth and expansion of the education systems of the developing region, notably in the last two decades, have had important implications for the training of educational personnel.

The first development arises from the new areas of specialized knowledge on which the education systems must draw for greater efficiency and effectiveness. This has meant incorporation of new staff into the corps of educational personnel, with specialization rather different from those to be found in the main body of teachers and supervisors. The faster growing areas are educational planning and management, educational technology, population issues, and educational research and development. The approach to the recruitment and training of such new personnel has varied from country to country. In some countries, the staff for these new specializations have been recruited from the existing personnel in the education system, who are given special or 'topping-up' training, in which international programmes of co-operation have played an important role. Some countries have preferred to recruit such staff from outside the system, giving them training in the 'educational aspects' of their tasks. The approach to these new needs – for specialists and their training, clearly calls for careful attention in developing training policies.

The other far-reaching development arises from quite extensive and profound changes in the teacher's tasks and roles. Linked to this are the changing roles of other educational personnel who work closely with teachers – supervisors, teacher educators, principals, educational advisers. Whatever the degree of complexity achieved by an education system, its quality and efficiency will continue to depend on the teachers and the other categories of educational

personnel supporting them. No education system can be better than the teachers who man it. Their preparation and training must be given very high priority in education policies and plans.

In the last few years, changes in the roles and tasks of teachers have derived from broader changes in the education system. Teaching is no longer confined to children in classrooms, it may also concern out-of-school children, youth and adults. With an increasing recognition of the learning needs of diverse groups of learners, the developments in curriculum and instructional arrangements have been moving towards greater flexibility and individualization. These developments require new orientations and new learning on the part of educational personnel.

Teacher education programmes must be sensitive to the socio-economic changes in the country, as well as to scientific and technological developments. Education today has a different role to perform in changing societies. It must enable the individual to be able to discriminate and decide in situations of increasing complexity and uncertainty. Increasingly, education is directed not only towards the acquisition of knowledge and appropriate skills, e.g. in languages and mathematics, but also towards developing a capacity to obtain, to sift and to evaluate information, and to reach rational conclusions. This requires the teacher to be something more than an instructor, to serve also as a resource person for information search and analysis. Likewise, non-formal education and distance education require different kinds of skills and attitudes from teachers.

By way of illustrating these changing roles and tasks, the following is a listing based on the perceptions of a group of educators of some of the competencies which teachers need today. They should be able to:

- Participate professionally in the development of education programmes;
- Demonstrate competency in one or more subject areas;
- Formulate objectives for learning based on learners' needs in relation to life;
- Develop, choose or renovate learning materials suited to specific objectives;
- Identify, organize and make available appropriate learning resources;
- Guide and facilitate learning;

- Monitor and evaluate learning progress;
- Diagnose a learner's weaknesses and strengths;
- Install an appropriate feedback-correction system to enhance learning;
- Handle individual, as well as group-learning activities;
- Motivate pupils for self-development and self-evaluation;
- Interact with parents and community members;
- Participate in adult literacy learning.

Pre-service training is well-organized in the region for school teachers at the first and second levels of education. Some countries are turning out more teachers than they require, whereas a few countries are not training enough. However, the capacity is available to train sufficient numbers of personnel to meet the demand for universal primary education and the consequential increase in enrolments at the second level.

In order to improve and remodel pre-service teacher training, many countries have formed design groups to prepare a core curriculum for teacher education with a view to link them more directly with development concerns (such as rural development), incorporate knowledge and skills needed in the use of new technologies (distance teaching, electronic media), and update with the new insights in child development.

In-service training is considered the key to the renovation of the teaching resources of the education system and its growth and development has stimulated more innovative initiatives than the pre-service programme. The major purposes which have impelled the in-service teacher education are to:

- Upgrade the academic qualifications of teachers;
- Provide adequate professional training so that teaching and learning are made more effective;
- Keep the teachers abreast of new developments in particular subject areas, as well as in pedagogy;
- Impart to teachers, the knowledge, skills and attitudes which are necessary in the light of changing national development goals and educational priorities; and
- Make teachers more aware of the problems of their communities and to develop the skills and attitudes needed for them to act as change agents in the community.

Particular attention in many programmes is being paid to enhance teachers' competence for helping children from disadvantaged groups.

The organization of in-service training is a major concern in some countries with a large number of teachers in the school system. Various methods of organization are being tried, such as national training institutions, teacher centres located in different parts of the country, extension education centres in training institutions, school clusters or complexes, and distance education. The duration of in-service courses varies a great deal, and tends more often than not, to be an orientation rather than training. It is realized that all teachers need further education, and some may need more in one area than others. A cycle of in-service training needs to be established, so that every teacher has an opportunity for further training after a lapse of time.

An important development in recent years is 'school-based' in-service training. Experience in school-based training has shown that its outcomes are more productive and programme costs are less. A greater familiarity with the individual problems of the school make such training more relevant. This training, which is conducted within the school setting, also enables active involvement of the school principal and other supervisory staff of the school. The removal of teachers from the school for purposes of training is thus avoided. Such programmes enable a greater degree of participation of school staff in problem identification, planning and execution of such programmes. The training mechanism at the school level also permits greater continuity in training.

A variant is used by 'cluster schools' – several schools in a locality co-operating as a unit. One school in the 'cluster' is designated a 'model school' and provided with more teachers, model libraries, more advanced school equipment and the like. The principal of this school is responsible for training the teachers of the model and the satellite schools.

In-service training using correspondence, radio and television is coming into use in several countries and caters particularly to teachers in areas which are far away from the teacher training institutions or in areas difficult to reach. In addition to following the programmes broadcast and the correspondence materials sent, the participants in the programme are expected to visit the master trainers once a week or once a month for consultations.

Yet another variant combines features of institution-based and school-based in-service training. A system-wide training programme is developed in three stages:

i) The first stage is to train a corps of teacher educators;

ii) At the second stage, the teacher educators return to their own institutions to conduct a training course for selected groups of their colleagues; and

iii) During the third stage, school principals organize in-service programmes for all their teachers in the school.

In order to maintain system-wide standards, packages of teachers' guides, curriculum plans and other necessary materials for the organizers of the in-service programmes are prepared and distributed.

Most of the countries in the region have either national level institutions or programmes for the pre- and in-service training of other educational personnel, such as curriculum specialists, programme evaluators, supervisory personnel, administrators and planners. This is clearly an area which will require more attention in the future. The need for training programmes for administrators and planners at the third level of education is also evident in view of the growing complexities of institutional and system management in education.

Chapter Fourteen

RESEARCH, EXPERIMENTATION, INNOVATION

In the region, generally, education research is a growth of the last three or four decades.

There are two main types of agencies which are involved: government departments and university-based research institutes. Education ministries in all countries manifest a growing interest in research efforts to guide policy-making and improve educational practice. Indications of this trend are the establishment of new research structures with permanent, qualified and experienced personnel; the merger of existing institutes; and the creation of bodies with co-ordinating and regulatory functions. Governmental agencies, particularly those based in the ministries of education, are now playing a significant part in making education research more policy-relevant and decision-related to problems in planning, curriculum reform and use of national languages in school. Institutes, bureaux or centres within the ministries undertake in-house investigations and baseline surveys. In addition, ministries are also involved in the evaluation of existing practices (such as syllabuses, programmes, academic assessment, methods, materials, facilities).

In many countries, government departments have considerable influence on the volume, direction and quality of research activities which are undertaken by other institutions with their financial support. Some government departments finance projects or commission studies to universities, support visiting researchers to work on research projects, or engage them as consultants in projects which they sponsor.

In some countries, university-related bodies have played a vital role in the overall pattern of research activities, particularly of the interdisciplinary type and related to problems of national development, while university faculties continue to do independent research along their disciplinary areas of interest in the context of expanded graduate programmes.

All these developments are encouraging and also promising. It cannot however be claimed that education research has come into its own in the region either in terms of contributing to knowledge or to insights illuminating education problems or their possible solution. First and foremost, educational research would need to be more consciously designed to solve problems. Not all problems in educational development, particularly where such educational development is conceived within the broader framework of national development, are amenable to research, but a considerable range of problems cannot be solved other than through the application of scientific research methods and procedures.

Another important aspect of educational research which needs to be stressed is interdisciplinarity. Education, and particularly education related to development, is essentially multidisciplinary with respect to sources of its knowledge, insights and understanding. The traditional form of educational research has tended to be narrow in its outlook and scope. Problem-oriented research has to bring together the insights from a variety of human and social sciences. Interdisciplinary research in education would therefore need to develop appropriate organization forms (e.g. team research), training programmes, as well as research procedures which will ensure bringing together specialists from related disciplines in a coherent manner.

Education is at a stage of development in most of the countries in the region, where educational research must be interpreted in a very broad connotation. All too often and under the influence of models from other stages of development, educational research is limited to and equated with highly theoretical investigation of a phenomenon. As a result, the research institutes in the developing region spend a great deal of time, effort and resources in making small 'replication' studies on the model of some internationally well known study. In similar vein studies are made adopting the traditional or classical psychological paradigms with the main preoccupation of collecting large amounts of quantitative data. The domain of educational research in the particular circumstances must comprise a wide range of investigations using scientific methods and would include analysis of an important problem as much as collection of data or development of curriculum materials or policy research.

In the development of education policies or reform plans, the contribution of educational research was in the past quite minimal. In most countries of the region, judgemental decision-making has

guided the design of education policies or reforms rather than the findings of educational research and experimentation. This is understandable since educational reform derives its rationale from a variety of sources – political, economic, social and technological, as well as educational, whereas much educational research has focused on purely pedagogical issues. It is only recently that research in education has begun to consider explicitly the broad social context of education and has brought to bear a variety of disciplines in illuminating that context.

Then there is the difference in time perspectives. Reforms in education are often responses to problems requiring what are considered urgent solutions. There is little opportunity to delay the response in order to mount a research programme. Research programmes are frequently conceived on a long-term basis made necessary by the nature or complexity of the problem under study or by the longitudinal nature of the study.

Furthermore, many research findings are written and disseminated in ways which are not immediately helpful to policy-makers. This gap has been of dis-service both to the policy-makers and researchers and has not helped policy decisions to cope with the complexity of the issues. It has also tended to make researchers less conscious of the need to consider the practical implications of their work.

In recent years however there is a discernible and growing interaction between educational research and experimentation, on the one hand, and educational reform activities on the other. In a few countries of the region, a major reform, especially in the area of curriculum and instruction, was the result of a series of carefully conducted experiments. This practice, however, is yet to become general. Nevertheless, the links between educational research and experimentation and educational reform are beginning to form, as educational research becomes more relevant to the basic concerns which inspire educational reforms in a country and less initiative of models which are not so relevant.

The contribution of educational research to educational development reform has been uneven in the past. Educational research in the developing countries seems to be torn between search for relevance and the desire to achieve 'rigour' in the application of quantitative methods. One new development of special importance is the growing number of teachers who are being given the opportunity to

participate in research projects and to generate their own topics for research under academic supervision. Teachers are taught the skills which they are expected to use and are made aware of educational research activities that are called for in projects which lead to reform. Such teacher participation provides an opportunity for researchers to discuss and test the practicality of tools and methods incorporated into the design of research, while the teachers have an opportunity for learning. The educational researchers also have a chance to participate in the everyday realities at the school level.

As the purpose, scope and methodologies of educational research get reoriented to the mission of educational development, reform and renewal, the training of research workers assumes added importance in national education policies. The present, almost total reliance, in many countries, on external training programmes for educational research workers, has undoubtedly contributed to the lack of strong and positive correlation between educational research and educational development. The most productive interaction of educational research and educational development has so far been mainly in the area of curriculum development and instructional methods and materials. There is need for closer links in educational planning and decision-making; educational administration and management; the implementation and evaluation of educational reforms.

Experimentation

In most research projects, experimentation is a necessary component to create and appraise in a scientific manner the knowledge needed for possible solutions of a problem or for evaluating a given change. The countries in the region have been using experimentation on an increasing scale in the implementation of various reforms.

During the past decade, several countries have established 'model' schools, or laboratory schools or pilot schools for trying out, on a scientific basis, various innovations in support of educational reforms before they are generalized. Some of the examples in the region are: the Development School Project, the PAMONG Project and the Small School Project in Indonesia; the Experimental Elementary Education Programme of the Philippines. Project IMPACT and DELSILFE of SEAMEO-INNOTECH in the Philippines and Indonesia; the Elementary and Middle School Project of the Republic of Korea; the Reduced Instruction Time Project and the IPST Science Project in Thailand; the Field Science Centres Project of Sri Lanka; the Education for Rural Development Project and Instructional

Improvement in Primary Education in Nepal. These are some examples where experimentation is being used as a prerequisite for implementing educational reforms deriving from policy decisions of the countries concerned.

Educational innovation – the cutting edge

A closely related form of educational action, innovation, has been very much in the forefront in the region. It has been the focal point of a very effective and productive regional co-operative programme which arose out of the initiative of the countries and has grown through the years with the support and leadership of UNESCO; namely, the Asia and Pacific Programme of Educational Innovation for Development (APEID).

Innovation is seen essentially as an action for change in order to achieve an objective or resolve a problem in an environment of constraints. The countries in the region have depended heavily on the introduction of innovations for meeting the challenging task of educational expansion and improvement within the priorities of national development goals in the last two decades. In pursuit of this aim, countries have established or expanded a number of institutions designed to provide a regular stream of tested innovations, demonstrate their applicability and potential, and provide necessary in-service education and supporting materials to facilitate their implementation.

In all countries of the region, curriculum development has received much attention over the last 20 years in order to make the teaching/learning process more effective and to respond to new economic, social and cultural objectives. Innovative approaches have been used in developing the curricula and new varieties of instructional materials, in testing them before system-wide introduction, in orienting and preparing the teachers, and in evaluating the results. These activities have been carried out within the framework of the existing education organizations but have caused significant changes in them.

Another area of innovative activity is the development and adoption of a variety of non-formal education programmes in order to reach population groups bypassed by the formal education systems and to provide them educational experiences at less cost than in formal systems. Unlike the curriculum development innovations, non-formal education has developed largely outside the established formal systems.

Educational innovations thus spring from many sources and in many forms. Numerous innovations arise from the initiatives of individual teachers, who continuously renew and renovate the content of education at the point of interface with the learners. In certain cases, educational innovations may derive from educational research; in others, from the thrust of broad education policies as integral components of national development policies, or from climacteric developments in science and technology. The point to stress is, whatever the form and source, innovation is educational **action** directed towards a development objective.

It is reasonable to expect that innovations incorporating the use of the new technologies will form a considerable part of the catalogue of innovations in the near future. An effective system of communications among the principal innovative groups in the region would induce a much quicker utilization of new technologies and other innovations. An important instrumentality for innovation, generation and dissemination has been found in the principle of 'networking', which enables creative groups of people or institutions to work jointly on common problems and experiences in order to generate new knowledge and to design innovations. Many examples of networking of institutions of higher learning and school-related institutions and learning action groups (cluster schools, consortia of institutions) already exist in the region. The trend towards innovative institutional forms will undoubtedly continue, and will possibly expand further. Organizational forms will need to be developed especially for interfacing educational institutions with related institutions in other development sectors. Similarly, formal organizations at the national or sub-national levels will need to interface with non-formal organizations, and at each level (institutional up to national), the system of education will need to interface with its counterparts in the field of communication, science and technology, and culture.

The context of innovation

The apprehensions about resistance to innovation on the part of teachers, parents and supervisors, which loomed large in the debates in the past, proved largely unfounded in actual experience. Probably this is because of the growing recognition that innovations have to be developed and evaluated with reference to the context in which they are to be, or are being, used and with the full participation of all concerned. Each situation provides a unique set of insights and working hypotheses which can be useful points of departure for

other experiences. One result of this new understanding is that the knowledge leading to innovation is largely built from the bottom up through working hypotheses. Another result is that special attention is paid now to 'teams of innovators' at the grass roots level – teachers, supervisors, parents, communities, and not only to 'lonely furrow' innovators.

The question of evaluation of innovations is important. Evaluation should be a built-in component of innovations and the results of evaluation should lead to any necessary adjustments. This implies that an innovative programme, whether it covers a teaching practice or instructional materials, should not be viewed statically, but as an evolving and growing body of experiences and practices.

Innovative attitudes and initiatives need a supportive climate. Several measures have been tried out in the region for preparing teachers to play a leading role in initiating innovation. In one country, teachers have formed study groups so that they can understand recent developments and also share their experiences of innovations. In another, teachers are formally linked in 'learning action groups' within the context of nationally developed and introduced innovations. Another approach is the establishment of networks of institutions for horizontal co-operation to enable teachers to review their own innovations and those being promoted by the education system. One country is providing financial assistance to groups of teachers who engage themselves in testing innovations or developing new ones. Attention is also being paid to associating supervisors, along with parents and teachers, in the design and promotion of innovations.

Experience of the spread of educational innovations at the 'grass roots' level has shown that person-to-person communication is the most effective means of dissemination of educational innovations. Personal interactions, however, have to be supported and supplemented by other measures. Firstly, those who have the benefit of sharing experiences at the inter-country level should be able, through networks at the national level, to share the experiences with others in the country. Those who share experiences at the national level could further share them through networks operating at the sub-national or grass roots levels. By promoting the cross-participation of persons and agencies concerned with educational innovation at these different levels – grass roots, sub-national, national – experiences will be shared more widely and their impact will be intensified.

Chapter Fifteen

INTERNATIONAL CO-OPERATION – A NEW DIMENSION OF EDUCATIONAL DEVELOPMENT

A recurrent theme in all the ministerial conferences and notably the Colombo Conference (1978) and the Bangkok Conference (1985) has been the emphasis on strengthening and deepening international and regional co-operation generally and more particularly in promoting the development of education.

International co-operation in the development of education has always been inseparably linked with the fundamental principles of UNESCO's existence. It is enshrined in its Constitution, Article 1 of which states,

> The purpose of the Organization is to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms which are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations.

It goes on to state that UNESCO will help to maintain, increase and diffuse knowledge,

> . . . by encouraging co-operation among the nations in all branches of intellectual activity, including the international exchange of persons active in the fields of education, science and culture and the exchange of publications, objects of artistic and scientific interest and other materials of information.

The second Medium-Term Plan of UNESCO (1984-89) states that co-operation between the peoples of the world in respect of education, science and culture should make it possible to attain 'the objectives of international peace and of the common welfare of

mankind' as set forth in the Constitution. Such co-operation, it says, could also secure universal respect for justice, the rule of law, human rights and fundamental freedoms that are indissolubly linked to peace and security in one significant whole. The second Medium-Term Plan then goes on to say that:

> These co-operative relations can . . . be approached from two related standpoints, distinct yet interconnected. Direct action must be taken to foster understanding among nations, by promoting 'the free flow of ideas' and . . . exchanges in the sphere of intellectual and cultural activities. But co-operation is also needed in order to bring about broader participation in intellectual and cultural activities in all societies, whence the notions of 'popular education' and 'the spread of culture'; whence, also, the ideal of 'equality of educational opportunity' and the need to 'maintain, increase and diffuse knowledge'.

International co-operation is not a static concept nor can it be equated with any single form or mode of action. It has grown and deepened, impinged upon by new configurations of economic, political and social forces, challenged by new dangers to the very existence of mankind, and uplifted by new visions of men of goodwill everywhere to share in wiping away the tears of poverty and deprivation.

In its pristine form international co-operation was the gift of a whole line of thinkers and visionaries who saw in 'one world' the fulfilment of mankind's quest. Like all other visions, this one could not be translated into action; its time could never come; but it remains for many the main stimulus to international co-operation.

At another level, for a long time international co-operation was dominated by the idea of 'transfer' of resources, of ideas and of knowledge in two-fold form of 'aid' and 'intellectual co-operation'. These were useful and fruitful ideas which have continued to have a significant influence on the form of action of international co-operation. During the 1970s, however, the worldwide developments reflecting the aspirations and strivings of billions of people cast a new light on the concept of international co-operation, with the emergence of the ideas of endogenous development and collective self-reliance. In introducing UNESCO's first Medium-Term Plan (1977–1982), the Director-General gave expression to it in the following words, 'Development can only be endogenous, precisely because it must take account of all the components that go to make up the

particular pattern of this or that society and give it a character or style which is unlike any other'. In the field of education, international co-operation must proceed on the basis that (in the words of UNESCO's General Conference Resolution), 'every society must provide for the promotion of education in ways which conform to its own structures and values'.

These new streams of thought centred on equity, equality of nations, the dignity and uniqueness of each society, collective self-reliance were crystalized in a new international economic order. A Declaration in this regard was adopted by the General Assembly of the United Nations at its Sixth Special Session in 1974. Its central message was to work,

> . . . for the establishment of a new international economic order based on equity, sovereign equality, interdependence, common interest and co-operation among all States irrespective of their economic and social systems, which shall correct inequalities and redress existing injustices, make it possible to eliminate the widening gap between the developed and the developing countries and ensure steadily accelerating economic and social development and peace and justice for future generation.

In **Moving towards change,** the Director-General of UNESCO, Amadou-Mahtar M'bow enumerated UNESCO's contribution to the new international economic order,

> UNESCO's role has its place in this overall plan, and UNESCO's tasks in particular will be: to contribute to the laying of the scientific and technological foundations which will enable every country to make better use of its natural resources; to broaden the scope of education and direct its course so that the people of each country will be better fitted to see to their own development; to develop communications and information systems; and through the development of the social sciences, to stimulate self-examination in every society in order to help it to derive the greatest advantage from the instruments of change, whilst not losing its own identity.

Yet another evolution of great significance and one which has its focus in the field of action was the concept of technical co-operation among developing countries. The new concept of international

co-operation is not only the reordering of relationships among the countries which are to be found at different stages of development, but it also includes, in equal importance, the sharing of capacities, knowledge, and experience among the developing countries themselves. As self-reliant growth is basic to the development of the countries, mutual co-operation serves to extend the area of self-reliance beyond national boundaries towards forms of collective self-reliance, based on commonality of problems. In Asia and the Pacific, this concept is the basic inspiration of APEID.

The concept of technical and economic co-operation among countries has emerged in sharp focus as a logical evolution of international co-operation in the last few decades. Valuable experience has been generated over a number of years in some of the international programmes of co-operation, notably the Colombo Plan in which technical co-operation among participating countries has been the guiding principle.

'Technical co-operation' and 'development co-operation' are substituting for 'technical assistance', an enormous change in nature and scope which has taken place over the last three or four decades. The change in terminology is significant of the fundamental changes and transformations which have taken place in the developing world and of the experience acquired by the United Nations system in dealing with the development process and aspirations. Over the years there has been a noticeable shift in the nature and substance of technical co-operation in the field of education, and its contribution to the development process has become more complex and sophisticated. The demand for expatriate teachers and general purpose advisers has largely given way to the demand for highly qualified specialists, whose principal function, especially in the Asia and the Pacific region, is essentially to share their experience, gained in other countries, with their equally well-qualified local counterparts. Most projects today include a substantial training component, and many are concerned with institution-building; the general aim is to develop and strengthen national capacities to renew and expand educational services.

Looking back over the evolution of a convergent world (that is to say, a world in which the various forces of growth and stability converge on common and widely shared interests) we may say, even at the risk of some simplification, that the mainspring of one world of the thinkers and visionaries was the universal character of knowledge. It was in the nature of knowledge that the seeds for

co-operation lay. That concept continues to be valid today as it was at the time of Confucius or Plato; indeed, it is rendered even more compelling by the growth of science and scientific knowledge and is thus an indispensable factor in international co-operation. In more recent decades the mainsprings of the movements towards international co-operation have their origin in the economic and political factors.

Worldwide economic developments specially in the last three decades have 'internationalized' economies substantially and this trend is irreversibly in operation at an accelerating pace. Thus progressively the world outside is becoming very much a world inside in every country, developing or developed. It is not too far in future when the knowledge of and capacity to live in this internationalized world will be an indispensable function of education.

Education has a vital role to play both in promoting international co-operation and in preparing the emerging generation for the rapidly 'internationalizing' world. Education for international understanding in this context acquires a deeper dimension of significance.

International co-operation in education is not limited to sustain short-term economic and educational growth targets, but is increasingly being considered as an integral part of long-term development strategies that are in line with the specific social and cultural characteristics of each nation and capable of mobilizing the creative energies of the individuals and groups making it up. Moreover, as the problems posed by education in societies undergoing major rapid changes grow more complex, so concerted intellectual action and exchanges of individuals, ideas, information, research findings, experience and innovations appear increasingly necessary as a means towards solving these problems.

UNESCO has, since its foundation, worked steadily, particularly in the educational field, to ensure that the activities undertaken in each Member State can benefit from sustained analysis and debate at the level of the international community. The systematic exchange of ideas, information and personnel; participation in studies and research on a worldwide basis; the strengthening of educational innovation activities: all these reinforce the action of Member States and reveal the major areas where special efforts are needed.

In this connection, it is impossible to separate the various levels of co-operation that have developed – international, regional, and sub-regional – since regional co-operation may be seen as one aspect,

and in some cases as the first phase, of international co-operation. Moreover, co-operation at these various levels has been supplemented by the direct co-operation of UNESCO and of other international organizations with the Member States of the region; that co-operation in activities at national level has allowed the countries concerned to benefit from the experience acquired at international level.

The multi-dimensional nature of international co-operation and the different combinations of needs in which it may be invoked is illustrated in the action of the international community in favour of the least developed countries in the world. MINEDAP V adopted a recommendation to give high priority to assisting the educational development of the least developed countries in Asia and the Pacific. Similarly the special needs and problems of the island countries in this Pacific area were highlighted for international co-operation.

The South Pacific developing countries face unique problems and special challenges in their economic, social and cultural development efforts, many of them caused by geographical factors. The emphasis in the development plans of the South Pacific on the achievement of self-reliance will require a choice of investment policies in education, training and efficient mobilization of their limited human resources. International co-operation in education and human resources development in these countries, while supporting the above priorities, should also be based on a respect for and support of national efforts to maintain and create communities whose social and cultural values continue to be the mainspring of progress.

Education for international understanding

The perspective for education for international understanding is provided by international co-operation, the emergence of a convergent world, the new windows on the world being opened by worldwide economic and other developments and inter-country travels of millions of people.

MINEDAP V, and also the earlier ministerial conferences, gave special emphasis to revitalizing and extending the programmes of education for international understanding, by the member countries and by UNESCO.

The urge to protect the dignity of an individual culture and the need for international understanding and co-operation are interrelated. No nation in today's world is fully independent in terms of its intellectual and cultural life. It has to depend on the exchange

and sharing of knowledge and information with others. The tremendous reservoir of knowledge that has been generated in the fields of science, technology, philosophy and literature transcends the boundaries of any particular nation. It has assumed the character of a universal knowledge system to which all nations are contributing and from which all nations draw benefit.

The sharing and distribution of knowledge take place in many ways. Books and journals are produced for international use. Students travel beyond their countries for higher study and research. Exchange services of experts and scholars are available in almost all fields. Translation of major publications from one language to the other are undertaken on a large scale. Such co-operation will continue to be indispensable for the development of nations and of individuals. Appreciation of the value of intellectual co-operation at the international level is therefore beyond narrow national perspectives and interests.

In recognition of the contribution which education can make to this global effort, UNESCO's General Conference adopted at its eighteenth session (1974) the **Recommendation concerning education for international understanding, co-operation and peace and education relating to human rights and fundamental freedoms.**

Countries of the region have introduced education for international understanding into their education system in a number of ways. Fourteen countries participate in UNESCO's Associated Schools Project, and several have active associations of UNESCO Clubs, many of which are based in schools. Appropriate changes and enrichment of the curricula, particularly in social studies, have been elaborated and introduced in some cases, although more attention could be given to this aspect.

Education for international understanding should permeate subjects and activities as part of the total education process. Its objectives should be taken fully into account at all levels and stages of curriculum development. As children advance in age, the curriculum should aim to develop their critical faculties, and their desire for truth, emphasizing the need for full access to information and rejection of stereotypes and prejudice, through participation in learning experiences designed to promote international understanding.

Regional co-operation

No theme has been so consistently stressed by the regional ministerial conferences, from Tokyo (1962) to Bangkok (1985), as that of regional co-operation in the development of education.

In a region such as Asia and the Pacific, with its rich variety and diversities of cultures, languages, political systems, and the stages of development, the emphasis on regional co-operation is profoundly significant.

Regional co-operation is an expression of international co-operation, which recognizes that there is no single model of development and even less can any 'model' be 'transferred' or otherwise imposed. There are diverse and alternative paths to development and the choice is to be defined by the country concerned in the context of its own social, economic and cultural conditions.

Regional co-operation, as it emerges from the deliberations of the Colombo Conference (1978) and the Bangkok Conference (1985) is a focus for co-operative problem solving, complimentarity in development efforts and pooling of experiences and resources.

A significant new dimension has been added by the increasing emphasis being placed by the developing countries on self-reliance. An important aspect of self-reliance is mutual co-operation among countries in the region, developed and developing, based on the desire to learn from the successes and failures of each other and to share capacities, knowledge, and experience for mutual benefit. As self-reliant growth is basic to the development of countries; mutual co-operation has served to extend the area of self-reliance beyond national boundaries towards forms of collective self-reliance and co-operation based on shared problems and aspirations.

Asia and the Pacific has successfully developed a diverse range in the forms of regional co-operation, with a high degree of participation by the countries. The experience that has been gained is conclusive; that central to fruitful regional or sub-regional co-operation in education is the participation of countries in designing, developing, implementing, supervising and evaluating a programme. Participation is the very cornerstone of regional co-operation as a dimension of international co-operation.

In the development of regional co-operation in Asia and the Pacific, high-level consultations are well established in the form of the periodic Conference of Ministers, the biennial meetings of the Advisory Committee on Regional Co-operation in Education and the

Regional Consultation Meeting of APEID. These bodies review and identify priority areas for regional co-operation generally or with reference to a single programmes in the light of educational trends.

Since the 1970s, 'networking' has become the predominant form of regional co-operation in the field of education in the region, providing mechanisms by which national educational institutions participate in regional co-operation. Programmes such as APEID, which has been the path finder, and the Regional Co-operative Programmes of Higher Education for Development, have already proven their effectiveness. The several regional networks for educational innovation in other parts of the world are being linked increasingly for mutual support and benefit. Interregional channels for sharing experience and expertise are also being developed for the regional major programmes for the universalization of primary education and the eradication of illiteracy.

The above-mentioned Regional Co-operative Programme of Higher Education for Development bears witness to the new emphasis placed on co-operation in this field as a result of action taken by UNESCO in pursuance of a recommendation of the Colombo Conference of Ministers of Education, including the convening of a study group on regional co-operation in higher education in Asia and Oceania in 1980. Another important landmark in the field of co-operation in higher education was the adoption in Bangkok in 1983 of a Regional Convention on the Recognition of Studies, Diplomas and Degrees in Higher Education in Asia and the Pacific. This Convention was the sixth one to be adopted by intergovernmental conferences, thus paving the way for the further adoption of a universal convention.

In the areas of educational planning and management and population education, regional consultations for programme development and implementation ensure flexible programming, taking into account changing national priorities. The participatory approach, involving the countries in the preparation of programme design, in the stages of implementation, and in the assessment of outcomes, has been strengthened so that national concerns, interests and needs are fully reflected in regional programmes.

Complementary to the networking and consultative mechanisms, there are various sub-regional programmes of co-operation in education. As an example, the co-operative programmes and projects of

SEAMEO, which have close formal and informal ties with the decentralized educational programmes of UNESCO, are being implemented through six research and development centres, each situated in a different location.

With the participation of several new Pacific Member States, sub-regional co-operation in the Pacific is characterized by the specific educational development needs of island countries, which are often quite different from the developing countries in Asia. Another sub-group with special educational needs in the region are the least developed countries (Afghanistan, Bangladesh, Bhutan, Lao People's Democratic Republic, Maldives, Nepal and Samoa). Representatives of these countries in expressing their views on regional co-operation in education, agreed on an agenda of co-operation for promoting genuine endogenous development answering the specific needs of the LDCs.

The needs of the developing countries in the region have diversified over the years and have caused UNESCO to develop new co-operation arrangements to respond flexibly and effectively to the specific needs of each country. The developed countries of the region are effectively participating in the various co-operative arrangements, sharing their unique insights and drawing on a common pool of experiences.

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Regional co-operation as a dimension of international co-operation is playing a crucial role in education in putting up the signposts for the future. One lesson that can be drawn clearly and without doubt from the experience of the last 25 years is that co-operation, international and regional, is a living, dynamic idea which cannot be bound in rigid formulae without losing its vitality. It evolves, finding new forms and expressions; this has been the experience to which the record of UNESCO Regional Office for Education in Asia and the Pacific testifies as the office celebrates its 25th anniversary in the current year.

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